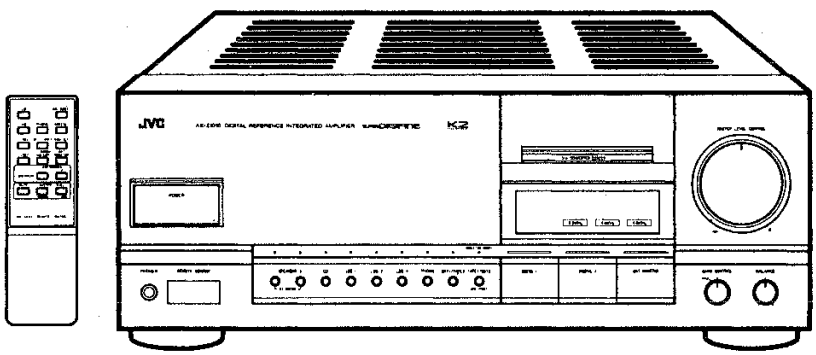
JVC

SERVICE MANUAL

MODEL No. AX-Z1010TN

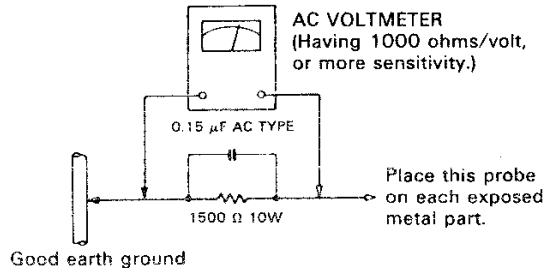


Contents

No. 20115
Jun 1989

Safety Precautions

1. The design of this product contains special hardware and many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.
2. Alternations of the design or circuitry of the product should not be made. Any design alterations of the product should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the product have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the Parts List of Service Manual. Electrical components having such features are identified by shading on the schematics and by (⚠) on the Parts List in the Service Manual. The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the Parts List of Service Manual may create shock, fire, or other hazards.
4. The leads in the products are routed and dressed with ties, clamps, tubings, barriers and the like to be separated from live parts, high temperature parts, moving parts and/or sharp edges for the prevention of electric shock and fire hazard. When service is required, the original lead routing and dress should be observed, and it should be confirmed that they have been returned to normal, after re-assembling.
5. Leakage current check (Electric shock hazard testing)
   After re-assembling the product, always perform an isolation check on the exposed metal parts of the product (antenna terminals, knobs, metal cabinet, screw heads, headphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.
   Do not use a line isolation transformer during this check.
   - Plug the AC line cord directly into the AC outlet. Using a "Leakage Current Tester", measure the leakage current from each exposed metal part of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground. Any leakage current must not exceed 0.5 mA AC (r.m.s).
   - Alternate check method
     Plug the AC line cord directly into the AC outlet. Use an AC voltmeter having 1,000 ohms per volt or more sensitivity in the following manner. Connect a 1,500 Ω 10 W resistor paralleled by a 0.15 μF AC-type capacitor between an exposed metal part and a known good earth ground.
     Measure the AC voltage across the resistor with the AC voltmeter.
     Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75 V AC (r.m.s). This corresponds to 0.5 mA AC (r.m.s).



Warning

1. This equipment has been designed and manufactured to meet international safety standards.
2. It is legal responsibility of the repairer to ensure that these safety standards are maintained.
3. Repairs must be made in accordance with the relevant safety standards.
4. It is essential that safety critical components are replaced by approved parts.
5. If mains voltage selector is provided, check setting for local voltage.

SPECIFICATIONS

CIRCUITRY

Preamplifier : ICL, MC/MM equalizer with EL-FETs in its initial stage

Power amplifier : "DIGITAL PURE A TYPE II" "Dynamic Super-A" power amplifier with Gm circuit

OVERALL CHARACTERISTICS

Output power

100 watts per channel, min. RMS, both channels driven into 8 ohms from 20 Hz to 20 kHz, with no more than 0.004% total harmonic distortion (U.S.A. and Canada only)

105 watts per channel, min. RMS, into 8 ohms at 1 kHz, with no more than 0.002%* total harmonic distortion (U.S.A. and Canada only)

100 watts per channel, min. RMS, into 8 ohms at 1 kHz, with no more than 0.002% total harmonic distortion (Continental Europe, the U.K., Australia and other areas)

100 watts per channel, min. RMS, both channels driven, into 8 ohms at 1 kHz with no more than 0.7% total harmonic distortion (DIN) (Continental Europe, the U.K., Australia and other areas)

160 watts 1 kHz, 4 ohms 0.7% (DIN) (Continental Europe, the U.K., Australia and other areas)

Total harmonic distortion

U.S.A. and Canada

(CD IN → SP. OUT) : 0.004% (20 Hz — 20 kHz, 8 ohms) at 100 watts

(PHONO IN → SP. OUT at volume −20 dB) : 0.009% (20 Hz — 20 kHz, 8 ohms) at 100 watts

Continental Europe, the U.K., Australia and other areas

(CD IN → SP. OUT) : 0.004% (20 Hz — 20 kHz, 8 ohms) at 90 watts

(PHONO IN → SP. OUT at volume −20 dB) : 0.009% (20 Hz — 20 kHz, 8 ohms) at 90 watts

Intermodulation distortion

U.S.A. and Canada

(CD IN → SP. OUT) : 0.004% (60 Hz : 7 kHz = 4 : 1, 8 ohms) at 100 watts

Continental Europe, the U.K., Australia and other areas

(CD IN → SP. OUT) : 0.004% (60 Hz : 7 kHz = 4 : 1, 8 ohms) at 90 watts

Power band width

(CD IN → SP. OUT) : 5 Hz — 60 kHz (IHF, 0.03%, 8 ohms both channels driven)

Frequency response : 5 Hz to 100 kHz, +0 dB, −3 dB/8 ohms

Damping factor : 200 (1 kHz, 8 ohms)

Input terminals

Input sensitivity/impedance (1 kHz)

PHONO (MM) : 4 mV/47 kohms

PHONO (MC) : 300 µV/470 ohms

CD, LINE 1, LINE 2, LINE 3, DAT 1/TAPE 2, TAPE 1/DAT 2 : 300 mV/30 kohms

Signal to noise ratio

PHONO (MM) : 89 dB/73 dB

PHONO (MC) : 71 dB

CD, LINE 1, LINE 2, LINE 3, DAT 1/TAPE 2, TAPE 1/DAT 2 ('66 IHF/DIN) : 112 dB/73 dB

U.S.A. and Canada only

PHONO (MM) : 82 dB (Rec Out)

PHONO (MC) : 73 dB (Rec Out)

CD, LINE 1, LINE 2, LINE 3, DAT 1/TAPE 2, TAPE 1/DAT 2 ('78 IHF) : 86 dB (Speaker Out)

Bass control : 0 ~ +5 dB (50 Hz, MASTER LEVEL −30 dB)

Recording output

Output level/impedance : 300 mV/1 kohms (Analog) 2.0 V/1 kohms (Digital)

DIGITAL INPUT/OUTPUT

DIGITAL-1 : −23 ~ −14 dBm

DIGITAL-2 : 0.5 Vp-p/75 ohms

DAT REC : 0.5 Vp-p/75 ohms

DAT PLAY : 0.5 Vp-p/75 ohms

D/A CONVERTER SECTION

Sampling frequencies (Auto selection) : 32 kHz, 44.1 kHz, 48 kHz

Total harmonic distortion (1 kHz) : 0.0035%

Dynamic range (1 kHz) : 98 dB

Signal-to-noise ratio : 107 dB

EQUALIZER

PHONO overload capacity (PHONO → TAPE 1 REC out / TAPE 1 MONITOR on)

PHONO (MM) : 100 mV (1 kHz, 0.02% THD)

PHONO (MC) : 7 mV (1 kHz, 0.03% THD)

PHONO RIAA deviation : ±0.2 dB (20 Hz — 20 kHz)

GENERAL

Dimensions : 435 (W) x 173 (H) x 459 (D) mm (17-3/16" x 6-13/16" x 18-1/8")

Weight : 16.8 kg (38 lbs)

Design and specifications subject to change without notice.

*(measured by JVC Audio Analyzer System)

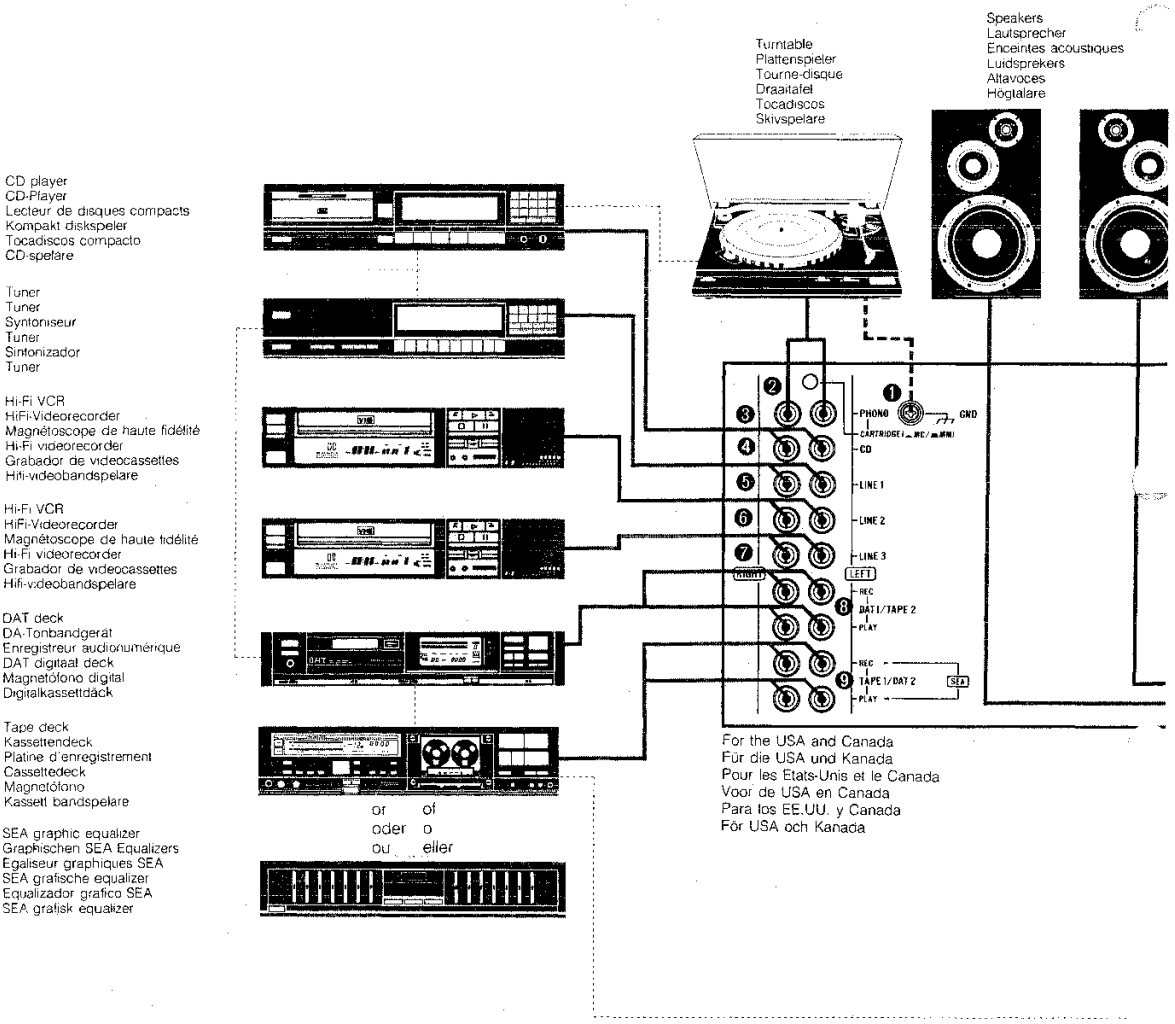
POWER SPECIFICATIONS

Area	Line Voltage & Frequency	Power Conumption
U.S.A.	AC 120 V ∿, 60 Hz	550 watts / 720 VA
Canada		
Continental Europe	AC 220 V ∿, 50 Hz	400 watts
U.K.	AC 240 V ∿, 50 Hz	860 watts
Australia		
Other areas	AC 110 / 127 / 220 / 240 V ∿ selectable, 50/60 Hz	400 watts

CONNECTION DIAGRAM

ANSCHLUSS-DIAGRAMM

DIAGRAMME DES RACCORDEMENTS



For the USA and Canada
Für die USA und Kanada
Pour les Etats-Unis et le Canada
Voor de USA en Canada
Para los EE.UU. y Canada
För USA och Kanada

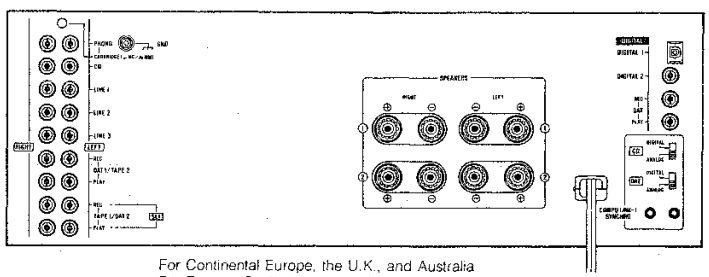


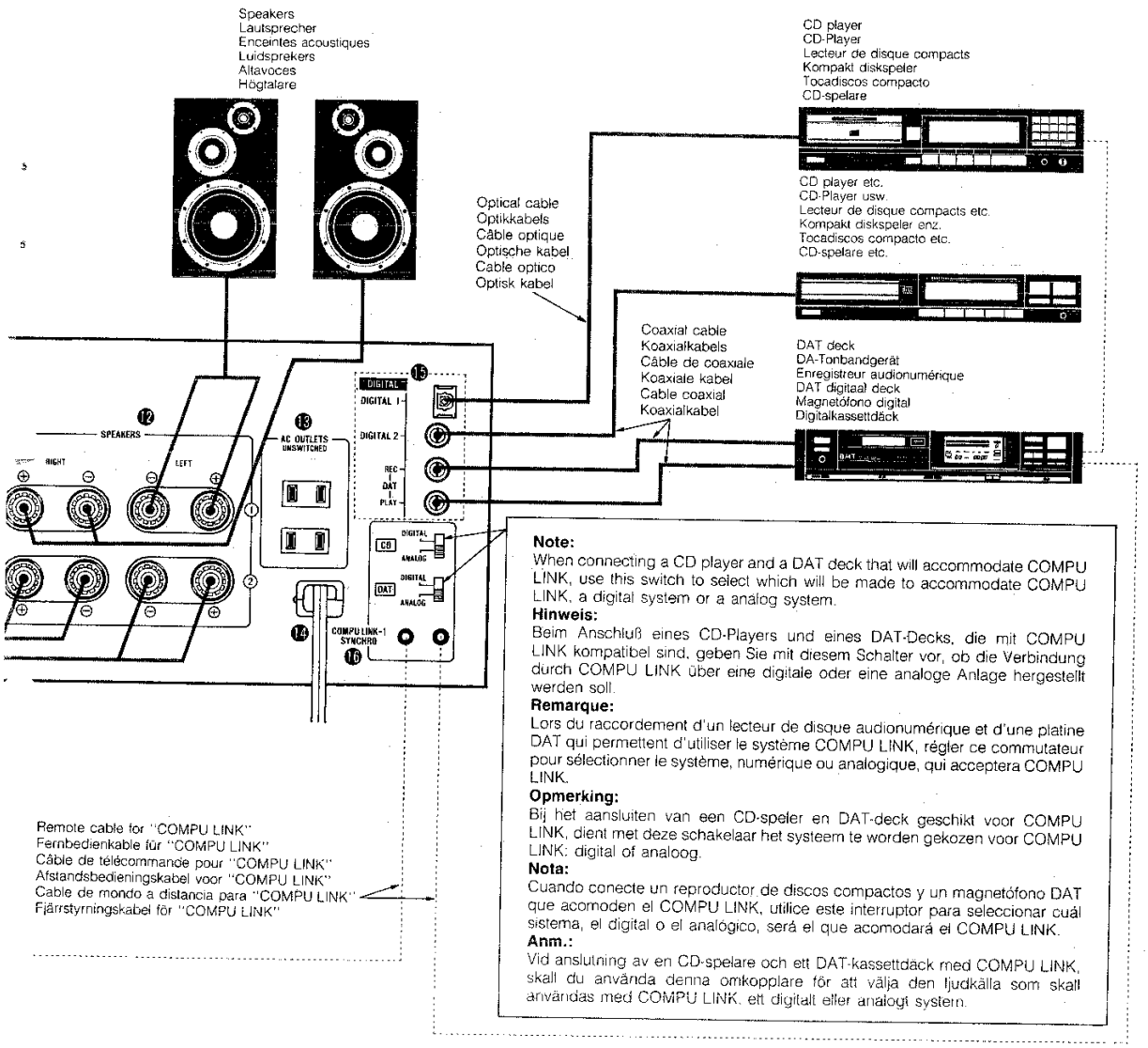
Fig. 2
Abb. 2
Afb. 2

For Continental Europe, the U.K., and Australia
Für Europa, Großbritannien und Australien
Pour l'Europe Continentale, le Royaume-Uni et l'Australie
Voor het vasteland van Europa, U.K. en Australië
Para Europa Continental, el Reino Unido y Australia
För kontinentala Europa, Storbritannien och Australien

AANSLUITINGS-DIAGRAM

DIAGRAMA DE CONEXIONES

ANSLUTNINGS-SCHEMA



Note:
When connecting a CD player and a DAT deck that will accommodate COMPU LINK, use this switch to select which will be made to accommodate COMPU LINK, a digital system or a analog system.

Hinweis:
Beim Anschluß eines CD-Players und eines DAT-Decks, die mit COMPU LINK kompatibel sind, geben Sie mit diesem Schalter vor, ob die Verbindung durch COMPU LINK über eine digitale oder eine analoge Anlage hergestellt werden soll.

Remarque:
Lors du raccordement d'un lecteur de disque audionumérique et d'une platine DAT qui permettent d'utiliser le système COMPU LINK, régler ce commutateur pour sélectionner le système, numérique ou analogique, qui acceptera COMPU LINK.

Opmerking:
Bij het aansluiten van een CD-speler en DAT-deck geschikt voor COMPU LINK, dient met deze schakelaar het systeem te worden gekozen voor COMPU LINK: digital of analoog.

Nota:
Cuando conecte un reproductor de discos compactos y un magnetófono DAT que acomoden el COMPU LINK, utilice este interruptor para seleccionar cuál sistema, el digital o el analógico, será el que acomodará el COMPU LINK.

Anm.:
Vid anslutning av en CD-spelare och ett DAT-kassettdäck med COMPU LINK, skall du använda denna omkopplare för att välja den ljudkälla som skall användas med COMPU LINK, ett digitalt eller analogt system.

Remote cable for "COMPU LINK"
Fernbedienkable für "COMPU LINK"
Câble de télécommande pour "COMPU LINK"
Afstandsbedieningskabel voor "COMPU LINK"
Cable de mondo a distancia para "COMPU LINK"
Fjärrstyrningskabel för "COMPU LINK"

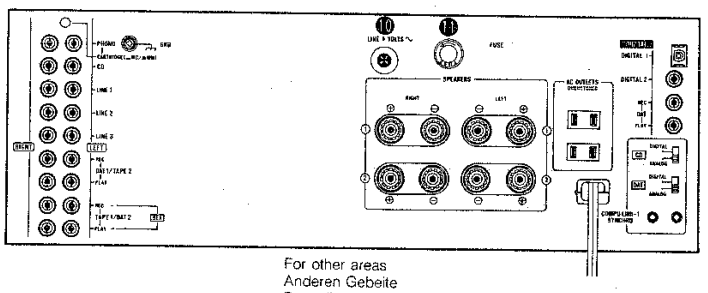


Fig. 1
Abb. 1
Afb. 1

Fig. 3
Abb. 3
Afb. 3

For other areas
Anderen Gebeite
Pour d'autres pays
Voor andere landen
Para otros países
För andra länder

❶ GND terminal
❷ Phono selector switch (CARTRIDGE (▬ MC/ ▮ MM)) — This switch selects between MC and MM type cartridges. When depressed, MC is selected. When returned to the original position MM is selected.
❸ PHONO terminals
❹ CD terminals
❺ LINE 1 terminals
❻ LINE 2 terminals
❼ LINE 3 terminals
❽ DAT 1/TAPE 2 terminals
❾ TAPE 1/DAT 2, SEA terminals
❿ AC voltage selector*
When this equipment is used in an area where the supply voltage is different from the preset voltage, reset the voltage selector to the correct position.
⓫ FUSE holder*
⓬ SPEAKERS terminals
Connect the speaker cords following the figures.
⓭ AC OUTLETS**
UNSWITCHED AC outlets
⓮ Power cord
⓯ DIGITAL Terminals:
DIGITAL 1: Connect the optical digital output of CD player, etc. Connect the attached optical fiber cable after removing the connector cover.
DIGITAL 2: Connect the coaxial digital output of CD player, etc.
DAT REC: Connect the digital input of DAT deck.
DAT PLAY: Connect the digital output of DAT deck.
Digital coaxial cable: Use 75 ohm coaxial cable with RCA pins at both ends to connect the DIGITAL 2 and DAT terminals.
⓰ COMPU LINK-1/SYNCHRO terminals
Connect to units provided with a COMPU LINK-1/SYNCHRO terminal to let the COMPU LINK control system function.

Note:
• COMPU LINK changeover switch
When operating an automatic playback or a syncronized recording, be sure to set this switch to the correct position to perform desired operation.

* Not provided on units for the U.S.A., Canada, Continental Europe, the U.K. and Australia.
** Not provided on units for Continental Europe, the U. K. and Australia.

Notes:
1. **Switch the power off when connecting any component.**
2. **Connect source components with left and right channels connected correctly. Reversed channels may degrade the stereo effect.**
3. **Connect speakers with correct polarity; (+) to (+) and (−) to (−). Reversed polarity will degrade the stereo effect.**
4. **Connect plugs or wires firmly. Poor contact may result in hum or damage the unit.**
5. **Do not connect equipment requiring more than the rated power to the AC OUTLETS on the rear panel.**
6. **The AC OUTLETS are not switched off when the front panel power switch is switched off.**
7. **If your turntable has a separate ground lead, connect it to the GND terminal.**
8. **Use speakers with the correct impedance within the value indicated on the rear panel.**
9. **Connection of digital signal cable**
Before connecting the optical cable to the DIGITAL 1 optical input terminal remove the cover from the terminal.
Since optical cable is made of plastic or glass material be careful not to bend sharply.
10. **When connected by COMPU LINK the cassette deck should be connected to the corresponding TAPE 1/DAT 2 terminals on the amplifier and the DAT deck should be connected to the corresponding DAT 1/TAPE 2 terminals. Although it is possible to connect a cassette deck and a DAT deck with the DAT 1/TAPE 2 terminals and the TAPE 1/DAT 2 terminals respectively, when connecting with an equipment corresponding to COMPU LINK of JVC, do not connect the COMPU LINK cable with the cassette deck or the DAT deck.**
11. **When a JVC's CD player is connected by COMPU LINK in digital system, connect to DIGITAL 1 and CD (analog system) terminals of this unit, and set the COMPU LINK changeover switch CD to "DIGITAL" position.**

FRONT PANEL

❶ POWER
Turns the power on and off.
When the power is turned on, the upper indicator will flicker then light.
Power is alternated on and off everytime the button is pressed.

Note:
- **Back up circuit**
  Even if the power is turned off or there is a power failure, the back up circuit will continue to operate and maintain the button settings for about three days. However, after this period has been exceeded the memory circuit will cancel and the button settings will be lost. In this situation press the buttons you want once more.

❷ Sampling frequency indicator
In response to a digital signal input a sampling frequency will be displayed in this section.

❸ D/A CONVERTER DIRECT
When this button is pressed the indicator will light and a signal from a CD player or some other component connected to the DIGITAL terminal will input directly into the power amplifier. Very high quality HiFi sound reproduction with DIGITAL PURE A TYPE II is achieved.

❹ MASTER LEVEL CONTROL
This knob is used to adjust the volume of the speakers or headphones.

❺ PHONES (headphone jack)

❻ REMOTE SENSOR
This sensor receives the signal transmitted from the remote control unit. When a signal is being received the indicator will light.

❼ SPEAKERS
These are the on/off buttons for speakers 1 and 2.
When this button is pressed to on, the indicator above the button will light.

❽ Analog input selector
Changes the analog system source connected to the CD, LINE 1-3, PHONO, and DAT 1/TAPE 2 terminals.
When each button is pressed, the indicator above the button will light. When D/A CONVERTER DIRECT or ❶ DAT MONITOR is operated, the indicator will be off and the source will be changed to the digital system.

❾ TAPE 1/DAT 2 (TAPE 1 ▶ DAT 1)
Turn ON when setting a tape deck connected to the TAPE 1/DAT 2 terminal to replay/record monitor, when using equipment such as a SEA graphic equalizer, or when copying (dubbing) from TAPE 1/DAT 2 to DAT 1/TAPE 2.
When it is turned ON, the MONITOR/COPY indicator above the button will light. The power is alternated ON/OFF everytime the button is pressed. (Even if another source is selected, it will not automatically be turned OFF.)
Since this button (source) has the highest priority of all sources, set it OFF except in the above cases.

❿ Digital input selector
This can be used to change the digital system source connected to the DIGITAL 1 and DIGITAL 2 terminals.
When each button is pressed, the indicator above the button will light. When the analog input selector is operated, the indicator will be off and the source will be changed to the analog system.

⓫ DAT MONITOR
Press this button to on when monitoring playback/recording of a DAT deck connected to the DAT digital terminals. When this button is pressed to on, the indicator above the button will light. ON/OFF is alternated everytime the button is pressed. (Selecting another digital source does not turn it off automatically.).

⓬ BASS CONTROL
When music volume is turned down the human ear tends to become less aware of bass sound. This can be compensated for by adjusting the bass control knob so that you can enjoy powerful bass even at low sound level.

⓭ BALANCE
This knob adjusts the volume balance between the left and right speakers.
Normally it is set to the center. (When D/A CONVERTER DIRECT is being used this knob will not operate.)

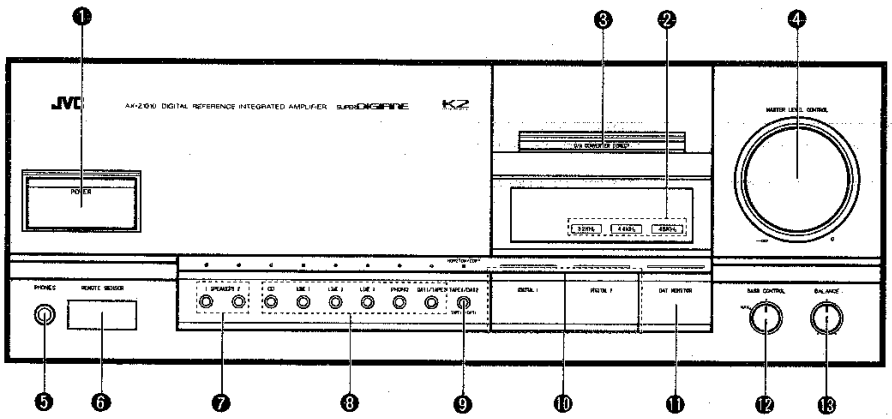


Fig. 4

HOW TO OPERATE

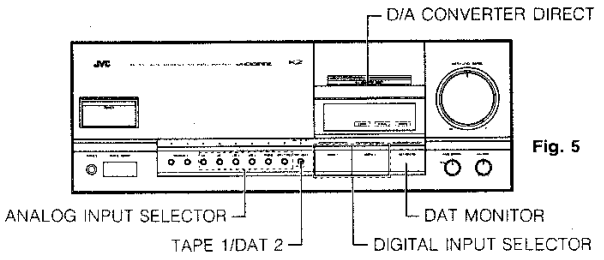


Fig. 5

Turn the MASTER LEVEL CONTROL knob down before turning on the power.
Connect the tuner and video components to LINE 1 – 3 respectively in accordance with the diagram on page 5, 6 showing connections.

Drehen Sie den MASTER LEVEL CONTROL-Knopf herunter, bevor Sie den Netzstrom einschalten.
Schließen Sie den Tuner und die Video-Komponenten an die Buchsen LINE 1 – 3 an, wie im Anschlußdiagramm auf Seite 5, 6 gezeigt.

Abaisser le bouton de contrôle de niveau principal (MASTER LEVEL CONTROL) avant de fournir l'alimentation.
Raccorder le syntoniseur et les appareils vidéo à la ligne 1 – 3 (LINE 1 – 3) respectivement suivant le diagramme de page 5, 6 indiquant les raccordements.

What have you selected? (Sound) Was haben Sie gewählt? (Ton) Qu'avez-vous sélectionné? (Son)			Names of switches to be operated Namen der zu betätigenden Schalter Désignation des touches à utiliser			
			ANALOG INPUT SELECTOR	TAPE 1 / DAT 2 (TAPE 1 ▶ DAT 1)	DIGITAL INPUT SELECTOR	DAT MONITOR
RECORD (Turntable, Plattenspieler, Tourne-disque)			PHONO (MM/MC)	OFF	—	OFF
CD	OUTPUT	OPTICAL DIGITAL	—		DIGITAL 1	
		ANALOG	CD		—	
FM/AM Broadcast FM/AM-Rundfunksendungen Emmission en FM/AM			LINE 1		—	
VIDEO (Hi-Fi VIDEO, etc.)			LINE 2, LINE 3		—	
TAPE BAND BANDE	OUTPUT	COAXIAL DIGITAL DAT	—		—	ON
		ANALOG DAT 1/TAPE 2	DAT 1/TAPE 2		—	OFF
		ANALOG TAPE 1/DAT 2	—	ON	—	

Fig. 6

D/A CONVERTER DIRECT switch
When this switch is operated the digital input is received directly by the power amplifier and the balance circuit and source selector circuit are bypassed. The D/A CONVERTER (Digital-Analog Converter) output is input directly into MASTER LEVEL CONTROL and very clear high fidelity performance is achieved. Accordingly, when the D/A CONVERTER DIRECT function is on, ANALOG recording and the balance function will not operate.

Notes:
- **During the reception of television or FM radio signals, depending on the broadcasting station frequency, noise might appear from digital units such as CD players. In this type of situation, cut off the power to the digital unit.**

D/A CONVERTER DIRECT-Schalter
Wenn Sie diesen Schalter betätigen, wird das Digitaleingangssignal direkt vom Endverstärker empfangen, wobei Balance-Schaltkreis und Signalquellenwahl-Schaltkreis umgangen werden. Der D/A CONVERTER-Ausgang (Digital-Analog-Umsetzer) liegt direkt am MASTER LEVEL CONTROL an, wodurch höchste Hifi-Klangqualität gewährleistet ist. Wenn die D/A CONVERTER DIRECT-Funktion eingeschalter ist, sind ANALOG-Aufnahmefunktion und Balanceregler-funktion also nicht aktiv.

Hinweise:
- **Während des Empfangs von Fernseh- oder UKW-Signalen können — je nach der Frequenz der Signalquelle — durch Digitalgeräte wie CD-Spieler Geräusche auftreten. In diesem Falle die Stromversorgung zum Digitalgerät abschalten.**

Commutateur direct de convertisseur numérique-analogique (D/A CONVERTER DIRECT)
Lorsque ce commutateur est manipulé, l'entrée numérique est directement reçue par l'amplificateur de puissance, et le circuit de balance et le circuit de sélecteur de source sont ignorés. La sortie de convertisseur numérique-analogique (D/A CONVERTER) est directement entrée dans le contrôle de niveau principal (MASTER LEVEL CONTROL), et la reproduction sonore de très haute fidélité est ainsi réalisée. Par conséquent, lorsque la touche de fonction directe de convertisseur numérique-analogique (D/A CONVERTER DIRECT) est sur la position marche, l'enregistrement analogique (ANALOG) et la commande de balance ne s'effectuent pas.

Remarques:
- **Pendant la réception des signaux de la télévision ou de la radio FM, selon la fréquence de la station émettrice, le bruit pourrait se produire des appareils numériques tels que le lecteur de disques compacts. Dans une telle situation, couper l'alimentation de l'appareil numérique.**

- **When pressing DIGITAL INPUT SELECTOR, DAT MONITOR or D/A CONVERTER DIRECT button,while analog system source is selected, there is about 4-seconds blank before switching to digital system source.**

Recording

1. Choose either an analog or a digital source that can be heard through the speakers. In this situation a 3 head tape deck connected to the REC terminal of either DAT 1/TAPE 2 or TAPE 1/DAT 2 can receive a recording signal and recording is possible.
   Recording level is adjusted from the tape deck, not from the MASTER LEVEL CONTROL.
   (Please refer to the table on page 17, 19 which shows button settings for various source and recording combinations.)
2. As this amplifier has both DIGITAL and ANALOG type input output terminals for a tape deck a variety of combinations are possible.

- **Wenn Sie bei Betrieb eines Analogsystems auf DIGITAL INPUT SELECTOR, DAT MONITOR oder D/A CONVERTER DIRECT umschalten, vergehen etwa 4 Sekunden, bevor das Gerät auf die digitale Tonquelle umschaltet.**

Aufnahme

1. Verwenden Sie eine Analog- oder Digital-Signalquelle, die über die Lautsprecher zu hören ist. Ein 3-Tonkopf-Kassettendeck, das an die REC-Anschlußbuchsen von entweder DAT 1/TAPE 2 oder TAPE 1/DAT 2 angeschlossen ist, kann ein Aufnahmesignal empfangen und ermöglicht damit die Aufnahme.
   Der Aussteuerungspegel wird vom Kassettendeck her kontrolliert und nicht von MASTER LEVEL CONTROL.
   (Bitte beziehen Sie sich auf die Tabelle von Seite 17, 19, wo die verschiedenen Knopf- und Tastenstellungen für Signalquellen- und Aufnahmekombinationen aufgeführt sind.)
2. Da der vorliegende Verstärker für das Kassettendeck sowohl über DIGITAL- als auch ANALOG-Ein/Ausgangsbuchsen verfügt, sind vielerlei Zusammenstellungen möglich.

- **Lorsque le sélecteur d'entrée numérique (DIGITAL INPUT SELECTOR), le bouton de DAT MONITOR ou D/A CONVERTER DIRECT est enfoncé, alors qu'une source de système analogique est sélectionnée, il y a une coupure d'environ 4 seconds avant la commutation sur la source de système numérique.**

Enregistrement

1. Choisir une source analogique ou numérique qui peut être écoutée à travers les haut-parleurs. Dans ce cas, une platine d'enregistrement à 3 têtes raccordée à la borne d'enregistrement (REC) du magnétophone audionumérique 1/bande 2 (DAT 1/TAPE 2) ou du bande 1/magnétophone audionumérique 2 (TAPE 1/DAT 2) peut recevoir un signal d'enregistrement, permettant ainsi l'enregistrement. Le niveau d'enregistrement est réglé depuis la platine d'enregistrement, et non pas depuis la commande de niveau snonore principal (MASTER LEVEL CONTROL).
   (Se référer à la table de page 17, 19 indiquant le réglage des touches pour diverses combinaisons de source et d'enregistrement.)
2. Cet amplificateur est muni des bornes d'entrée/sortie numérique et analogique pour un lecteur de bandes, et diverses combinaisons sont donc possibles.

<table>
<tr><th colspan="2">Which combination?
Welche Kombination?
Quelle combinaison?</th><th colspan="4">Operation of each button.
Betätigung der einzelnen Tasten.
Fonction de chaque touche</th></tr>
<tr><td colspan="2">Playback side → Recording side
Wiedergabeseite → Aufnahmeseite
Côté lecture → côté enregistrement</td><td>ANALOG INPUT SELECTOR</td><td>TAPE 1/DAT 2
(TAPE 1 ▶ DAT 1)</td><td>DIGITAL INPUT SELECTOR</td><td>DAT MONITOR</td></tr>
<tr><td colspan="2">DIGITAL → DIGITAL</td><td colspan="4" rowspan="2">Digital recording cannot be made from a CD or other media that has a copy prohibition code included in the digital signal.
Digital-Aufnahm von einer CD-Platte oder einer anderen Klangquelle mit Kopierschutzcode in den Digital-Signalen ist nicht möglich.
Il n'est pas possible de faire un enregistrement numérique à partir d'un CD ou par un autre moyen comportant un code interdisant tout enregistrement, qui est intégré dans le signal numérique.</td></tr>
<tr><td>DIGITAL 1 (OPTICAL)</td><td>DAT (COAXIAL)</td></tr>
<tr><td>DIGITAL 2 (COAXIAL)</td><td>DAT (COAXIAL)</td><td>—</td><td>—</td><td>DIGITAL 2</td><td>—
(Monitoring is possible when ON.)
(Mithören möglich, wenn eingeschaltet.)
(Le contrôle est possible lorsque système est allumé.)</td></tr>
<tr><td colspan="2">DIGITAL → ANALOG</td><td rowspan="2">—</td><td>OFF</td><td rowspan="2">Select the source you want to record.
Die aufzunehmende Klangquelle anwählen.
Sélectionner la source désirée.</td><td rowspan="2">OFF</td></tr>
<tr><td>DIGITAL 1 (OPTICAL)
DIGITAL 2 (COAXIAL)</td><td>DAT 1/TAPE 2</td></tr>
<tr><td rowspan="2">DAT (COAXIAL)</td><td>TAPE 1/DAT 2</td><td>—
(Monitoring is possible when ON.)
(Mithören möglich, wenn eingeschaltet.)
(Le contrôle est possible lorsque le système est allumé.)</td><td>TAPE 1/DAT 2</td><td>Recording is impossible.
Aufnahme ist nicht möglich.
L'enregistrement n'est pas possible.</td><td></td></tr>
<tr><td>DAT 1/TAPE 2</td><td>—</td><td>—
(Monitoring is possible when ON.)
(Mithören möglich, wenn eingeschaltet.)
(Le contrôle est possible lorsque le système est allumé.)</td><td>—</td><td>ON</td></tr>
</table>

Fig. 8

Which combination? Welche Kombination? Quelle combinaison?		Operation of each button Betätigung der einzelnen Tasten Fonction de chaque touche			
Playback side → Recording side Wiedergabeseite → Aufnahmeseite Côté lecture → côté enregistrement		ANALOG INPUT SELECTOR	TAPE 1/DAT 2 (TAPE 1 ▶ DAT 1)	DIGITAL INPUT SELECTOR	DAT MONITOR
ANALOG → ANALOG		Select the source you want to record. Die aufzunehmende Klangquelle anwählen. Sélectionner la source désirée.	OFF	—	—
CD LINE 1 LINE 2 LINE 3 PHONO	DAT 1/TAPE 2				
	TAPE 1/DAT 2		— (Monitoring is possible when ON.) (Mithören möglich, wenn eingeschaltet.) (Le contrôle est possible lorsque le système est allumé.)		
DAT 1/TAPE 2	TAPE 1/DAT 2	DAT 1/TAPE 2	— (Monitoring is possible when ON.) (Mithören möglich, wenn wingeschaltet.) (Le contrôle est possible lorsque le système est allumé.)	—	—
TAPE 1/DAT 2	DAT 1/TAPE 2	Select other than DAT 1/TAPE 2. Eine andere als die Position DAT 1/TAPE 2 wälen. Sélectionner autre que DAT 1/TAPE 2.	ON		

Fig. 10

Note:
- **This table shows the status when the D/A CONVERTER DIRECT is off.**

Hinweis:
- **Diese Tabelle zeigt den Betriebszustand, wenn D/A CONVERTER DIRECT ausgeschaltet ist.**

Remarque:
- **Ce tableau indique le statut lorsque D/A CONVERTER DIRECT est désactivé.**

Notes:
- **When recording to a tape deck of analog system, set the D/A CONVERTER DIRECT button to off.**
- **DAT which is connected to the DIGITAL terminal from the source of the analog system cannot be recorded.**
- **Regarding CD software and digital signals which have a copy prohibit code in the source, a digital recording cannot be made.**
- **When monitoring a recording to a 3 head type deck should be connected to TAPE 1/DAT 2 terminals and the TAPE 1/DAT 2 button should be on.**
- **During synchronized recording, the source is locked to CD or PHONO position to avoid accidental stops or changing to another source.**

Hinweise:
- **Für Aufnahmen auf das Kassettendeck einer Analoganlage schalten Sie die D/A CONVERTER DIRECT Taste ausgeshaltet ist.**
- **Wenn der DIGITAL-Anschluß mit der Signalquelle eines Analog-Systems verbunden ist, kann kein DAT-Band aufgenommen werden.**
- **Wenn CD-Software und digitale Signale mit einer Kopiersperrcodierung verschen sind, kann keine digitale Aufnahme durchgeführt werden.**
- **Wenn die Aufnahme auf ein 3-Tonkopfkassettendeck mit der Monitor-Funktion überwacht werden soll, sollte das Kassettendeck an die TAPE 1/DAT 2-Anschlußbuchsen angeschlossen werden und der TAPE 1/DAT 2 Schalter eingeschaltet sein.**
- **Bei Synchro-Aufnahme wird die Signalquelleneinstellung für CD oder PHONO verriegelt, so daß unbeabsichtigte Unterbrechungen oder Umschaltung auf andere Signalquellen vermieden werden.**

Remarques:
- **Lors d'un enregistrement vers un magnétocassette de système analogique, régler la touche D/A CONVERTER DIRECT sur la position désactivé.**
- **Il est impossible d'effectuer l'enregistrement du magnétophone audionumérique raccordé à la borne numérique (DIGITAL) de la source du système analogique.**
- **Pour les signaux des logiciels ou numériques du disque compact/disque compact vidéo (CD) comportant un code d'interdiction de copie dans la source, il est impossible d'effectuer l'enregistrement numérique.**
- **Lors du contrôle d'un enregistrement pour une platine d'enregistrement à 3 têtes (3 head tape deck), la platine doit être raccordée aux bornes de band 1/magnétophone audionumérique 2 (TAPE 1/DAT 2), et le commutateur du moniteur de bande 1/magnétophone audionumérique 2 (TAPE 1/DAT 2) doit être mis sur la position marche.**
- **Pendant l'enregistrement synchronisé, la source est verrouillée à la position CD ou PHONE pour éviter des arrêts accidentels ou de changer de source.**

Digital Pure A TYPE II

If an amplifier is equipped with the built-in D/A converter, "signal time base control" becomes easy owing to the special characteristics of digital signals.
Utilization of this special characteristics allows an amplifier to perform optimal A class operation.
Although the A class operation can be said to be the ideal type for amplifiers, for an A class amplifier with mass output, even at low level restart, a mass current was always flowing to the power unit. This caused a remarkable loss in the power unit and generated unnecessary heat.
Digital Pure A Type II realizes the effective ideal A class operation to curb unnecessary heat from the low level to the high-level consisting of three blocks by varying the operation current in the power unit to the optimum level for each signal.
Accordingly, a relaxing yet powerful and silk-like smooth sound quality can be enjoyed.

Time Base Processor by memory time shift circuit ❷
Arranged just before the D/A converter to slightly shift the time axis of the input digital signal.

Prediction Signal Processor ❼
Creates a prediction signal from the input digital signal based on the information obtained from the input signal to the time base processor, and outputs an operation point control signal grounded on the created prediction signal.

Programmable Bias Current Controller ❽
Receives the control signal in ❼, alters the idling current by the optical BIAS circuit and leads to the Hi-Power Pure A class operation to curb unnecessary heat.

❶ Input
❷ Time base processor
❸ D/A converter
❹ VOLUME
❺ Power amplifier
❻ Output
❼ Prediction signal processor
❽ Programmable bias current controller

COMPU LINK REMOTE CONTROL SYSTEM

The COMPU LINK REMOTE CONTROL SYSTEM was developed by JVC. You can control each COMPU LINK component from the remote control unit, and also perform the following advanced operations with ease.

Automatic source selection
If the remote cable is used to connect this unit to other JVC components with COMPU LINK-1/SYNCHRO terminals. By pressing the remote control unit source selector button or the play button of each connected equipment, the source changeover and regenerated start can be performed automatically.
When switching from one component to another, such as a cassette deck, turntable or CD player, the previous component will stop playing after about five seconds.

Synchronized recording
Synchronized recording refers to the process whereby a cassette deck automatically commences recording, in synchronization with the CD player or turntable.
Set the cassette deck to the REC/PAUSE mode according to the procedures in the instruction manual.
When synchronously recording the CD player, push the PLAY button on the CD player. The cassette deck enters the record mode the moment the CD player starts and synchronized recording commences.
Synchronized recording stops automatically when the CD player stops playing.
To cancel synchronized recording, push the STOP button of the CD player, turntable or cassette deck.

Note:
- **When operating a CD player or a DAT deck, select analog or digital system by the COMPU LINK changeover switch of this unit. If the switch is set to the wrong position, desired operation cannot be performed.**

COMPU LINK
Remote
Control System

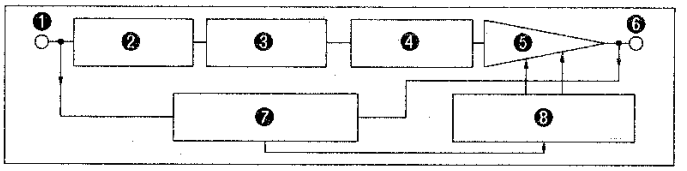


Fig. 12

REMOTE CONTROL UNIT (RM-SA1010U)

Batteries

- **How to install the batteries (Fig. 13)**

1. Remove the battery cover by sliding the cover of the battery case in the direction of the arrow.
2. Install the provided batteries ("AA": UM-3, R6, 1.5 V), with their polarities properly placed. Positive and negatives facing the correct direction.
3. Re-Install the battery cover.

- **Battery life**

The batteries can be used for an average of 1 year.

- **Battery replacement time**

When the distance at which the remote control unit functions begins to decrease, replace the batteries ("AA": UM-3, R6, 1.5 V).

To operate the amplifier with the remote control unit (RM-SA1010U) point it towards the "REMOTE SENSOR" and press the buttons you want. The remote control unit will activate the amplifier within a range of about 7 meters (23 ft). If the remote control unit is operated while being held at an oblique angle the effective range will be reduced. Try to point the unit directly towards the REMOTE SENSOR of the amplifier.

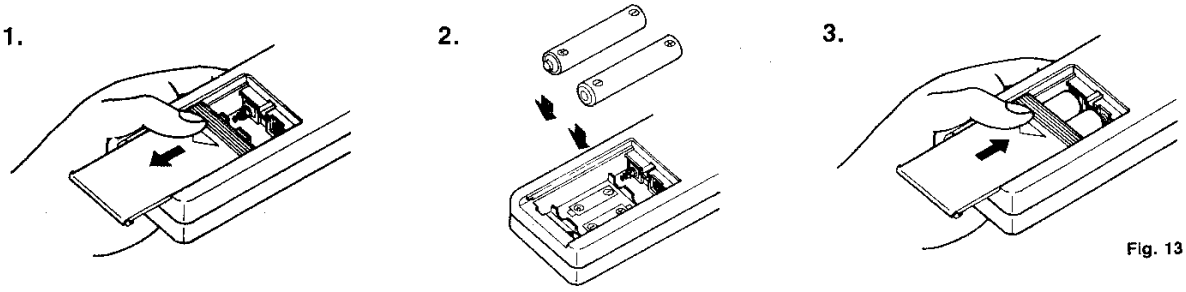


Fig. 13

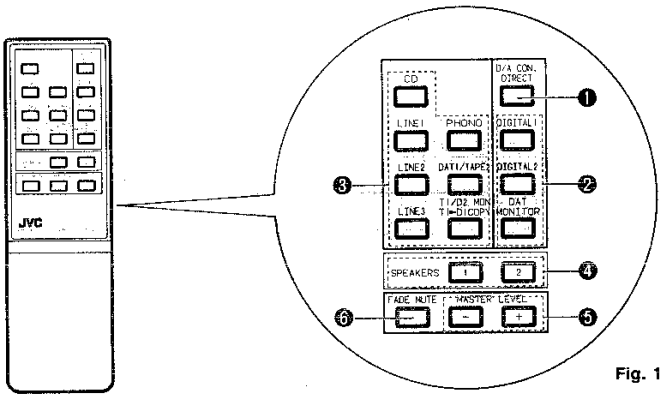


Fig. 14

DESCRIPTION AND FUNCTIONS

❶ D/A CON. DIRECT
When this button is pressed the indicator will light and with DIGITAL PURE A TYPE II a CD player or some other component connected to the DIGITAL INPUT terminal will be heard in very high grade HiFi sound.

❷ Source Selector
Digital type
(Unit connected by COMPU LINK can be automatically operated using the remote control unit)
DIGITAL 1: Press this button to play a unit connected to the DIGITAL 1 terminal.
DIGITAL 2: Press this button to play a unit connected to the DIGITAL 2 terminal.
DAT MONITOR: Press this button to monitor a recording or to play the DAT deck connected to the DAT DIGITAL REC or PLAY terminals on the amplifier. If pressed again the function will stop.

❸ Source Selector
Analog type
(Unit connected by COMPU LINK can be automatically operated using the remote control unit)
CD: To play the CD player press the CD button on the remote control unit.
PHONO: To play the turntable press the PHONO button on the remote control unit.
LINE 1: Press the LINE 1 button to play a unit connected to the LINE 1 terminals on the amplifier.
LINE 2: Press this button to play a unit connected to the LINE 2 terminals on the amplifier.
LINE 3: Press this button to play a unit connected to the LINE 3 terminals on the amplifier.
DAT 1/TAPE 2: Press this button to play a unit connected to the DAT 1/TAPE 2 terminals.
T 1/D 2 MON, T 1 ► D 1 copy: Press this button to on when monitoring playback/recording of a tape deck connected to TAPE 1/DAT 2 terminals, or when using SEA graphic equalizer, or when copying (dubbing) from TAPE 1/DAT 2 to DAT 1/TAPE 2.

❹ SPEAKERS
These are the on/off buttons for speakers 1 and 2.

❺ MASTER LEVEL
−: As this button is being pressed the MASTER LEVEL CONTROL knob will slowly turn counterclockwise and the volume will be reduced.
+: As this button is being pressed the MASTER CONTROL LEVEL will slowly turn clockwise and the volume will be increased.

❻ FADE MUTE
When this button is pressed the MASTER LEVEL CONTROL knob will turn down and the sound will be softened.
(Each time the button is pressed the sound will be further reduced.)

USING S.E.A. GRAPHIC EQUALIZER/ PROCESSOR

To enjoy full SOUND FIELD control and TONE adjustment you can connect a SEA graphic equalizer or a DAP (Digital Acoustics Processor) to the TAPE 1/DAT 2 terminals of the amplifier.

Note:

- **When the D/A CONVERTER DIRECT function is on, the SEA graphic equalizer connection will not operate.**

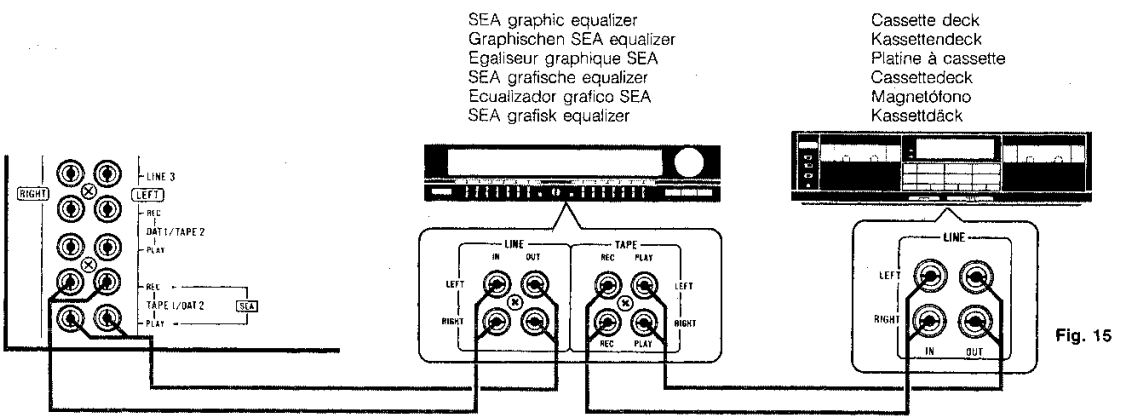


Fig. 15

■ Connecting to SEA (Fig. 15)

- When operating SEA or playing back a deck connected to SEA, turn on the TAPE 1/DAT 2 button and turn off the D/A CONVERTER DIRECT button of this unit.

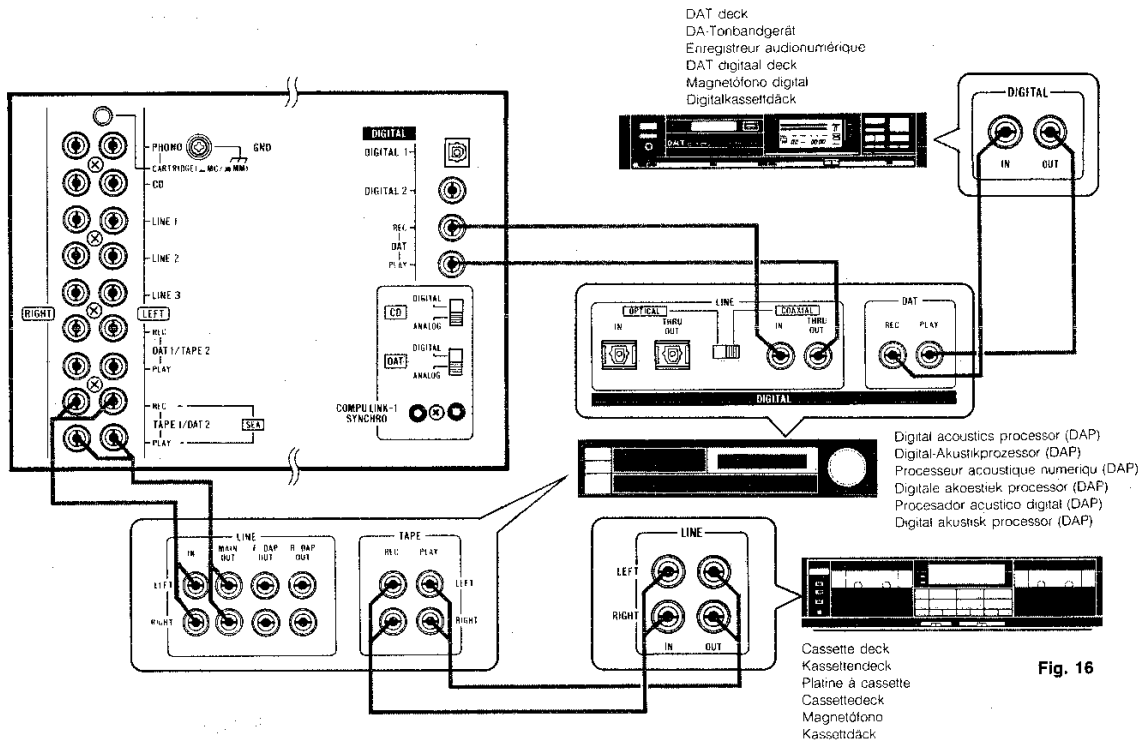


Fig. 16

■ Connecting to processors
(Fig. 16)

Connecting to a JVC's DAP

- When operating DAP or playing back a deck connected to DAP, operate the button of this unit as follows.
  Digital connection:
  DAT MONITOR button → on
  TAPE 1/DAT 2 button → off
  Analog connection:
  TAPE 1/DAT 2 button → on
  D/A CONVERTER DIRECT button → off
- When connecting this unit to a JVC's DAP, set the OFFS DELAY parameter of the DAP as follows.

Input source of this unit Eingangssignal des Geräts Source d'entrée de cet appareil	**OFFS DELAY setting value of DAP OFFS DELAY Einstellwert des DAP Valeur de réglage OFFS DELAY du DAP**		
DIGITAL	**fs 48 kHz** 10 ms	**fs 44.1 kHz** 10 ms	**fs 32 kHz** 10 ms
ANALOG	0 ms		

TROUBLESHOOTING

Check the following points before calling for repairs. .....

There is a difference between the sound level from the record player and the level from another source.

The MM/MC type cartridge selector switch is not set in the correct position.

— Set the selector switch on the back of the amplifier correctly.

No sound output

Erroneous cable connection

— Correct the connection

The input selector switch is not in the right position.

— Set switch in the current position.

The TAPE 1/DAT 2 switch is in the "on" position.

— Press the TAPE 1/DAT 2 button so that the indicator light goes off.

Speaker line are disconnected.

— Check connections between the back of the amplifier and the speakers.

Sound is only coming from one speaker.

The lines going to a speaker are disconnected.

— Check connections between the speakers and the back of the amplifier.

The BALANCE knob is turned completely to one side.

— Return the BALANCE knob to the center.

When the volume is turned up while listening to a record there is a booming sound.

The record player is picking up vibrations from the speakers. (howling)

— Move the speakers well away from the record player and place the record player on a firm base.

Description of Technology

1. Digital Pure-A

The "Digital Pure-A" is an operation system materialized based upon the new concept of "signal prediction". In a conventional digital amplifier, the input digital signal is decoded by the built-in digital decoder and is applied to the D/A converter as it is. In the "Digital Pure-A", however, the input digital signal is once stored in a memory circuit and, after the large lapse of a certain period, is output to the D/A converter, in which way the signal is delayed so that signal prediction is thus made possible by the preceding signal. In the AX-Z1010TN, the Digital Pure-A operation is performed by varying the bias current according to the level of the signal preciding 10 msec.

2. Prediction Signal Generation Circuit

(1) Preceding signal (H.O, $\overline{DZ}$)

Of the serial data output from pin 17 of IC106 (YM3623B), two bits of MSB and 2SB are latched by IC261 in to an EX-OR circuit, the output of which becomes "H" when the playback signal level exceeds −6 dB and is held at C262 on the way for a certain time and is emitted from pin 1 of J403. (Half Over signal)

In addition, concurrently with this, the serial data is held at C269 for a certain time and is emitted from pin 3 of J403. (Digital Zero signal)

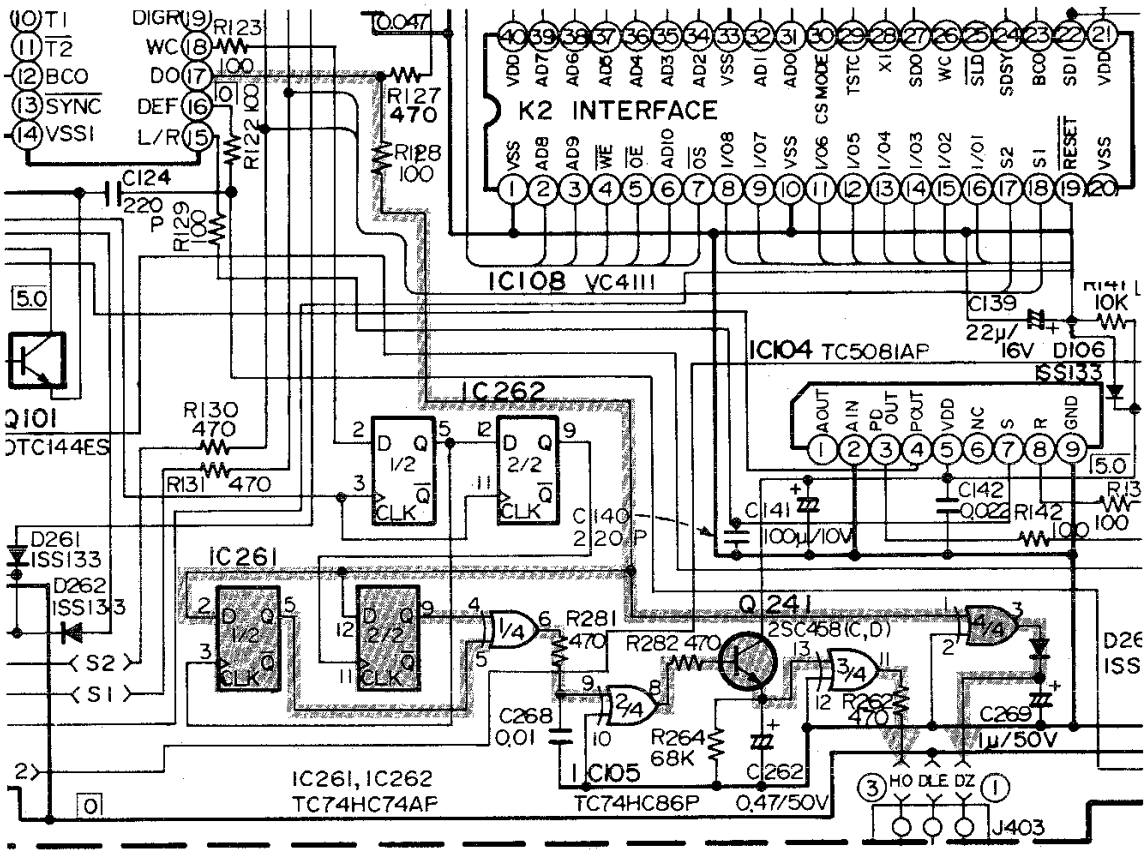
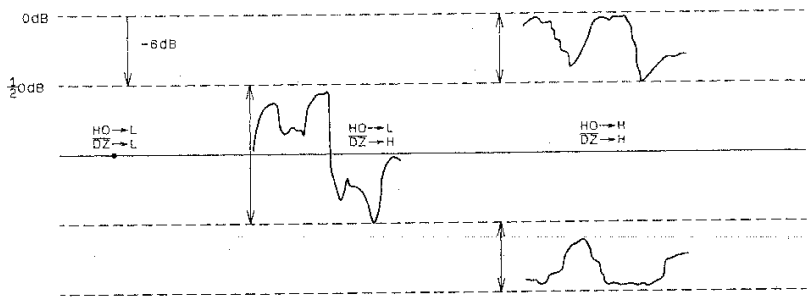


Figure 1. Prediction Signal Generation Circuit

Then, by these two signals, judgement is made as to at which level the musical signal is.



(2) Delay signal (Vb)

The time base processor (IC108) writes in a 16-Kbyte SRAM the serial data sent from the digital interface receiver and at the same time reads the serial data which has been delayed 10 msec and outputs this delayed serial data to the D/A converter.

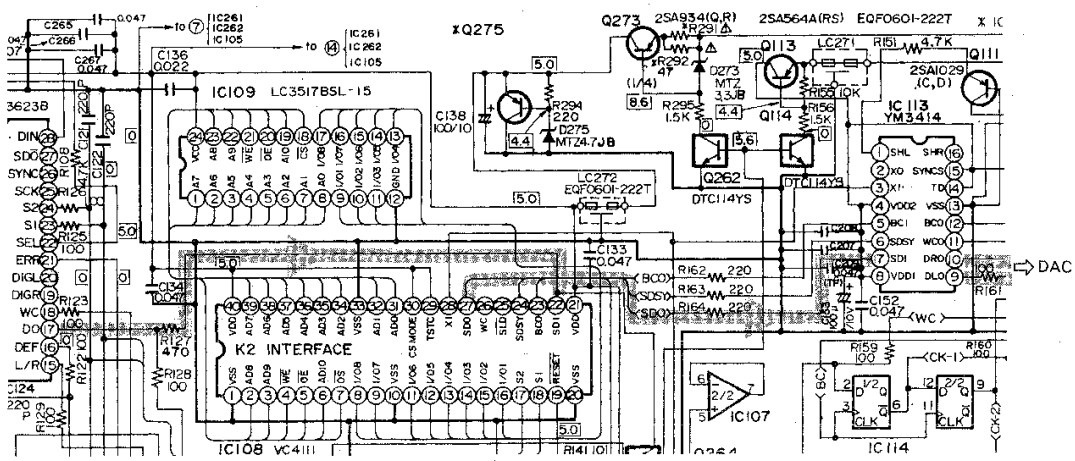


Figure 2. Delay Circuit

(3) Full-wave rectification outputs (VL, VR)

The delayed analog signal which is power amplified in the power amplification stage is subject to full-wave rectification (IC701 and IC702), the output of which is held at C703 for a certain time. This time constant is determined by R719.

The L-ch and R-ch outputs of this full-wave rectification circuit are here assumed as VL and VR.

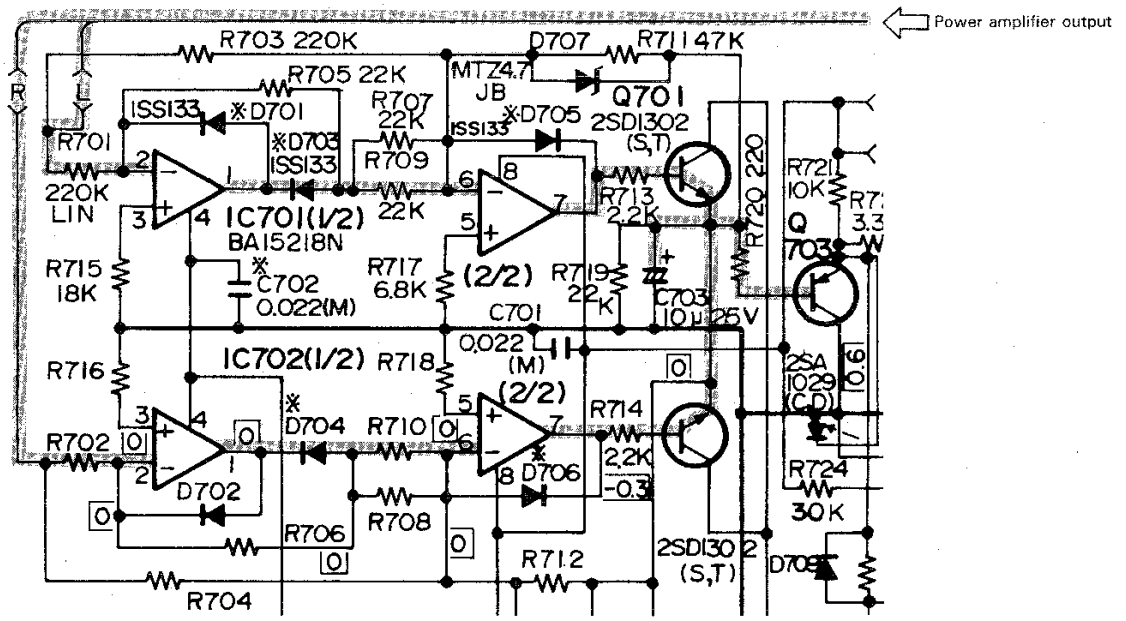


Figure 3. Full-wave Rectification Circuit

(4) Judgement circuit and bias current control

The outputs (from the emitters of Q707 and Q708) of the generated preceding signals (H.O, $\overline{DZ}$) are subject to comparison with the full-wave rectification outputs (VL, VR). The greater outputs enter to the bases of Q705 and Q706 by way of Q703, thus the collector outputs drive the photocoupler (IC403, IC404) to control the bias current.

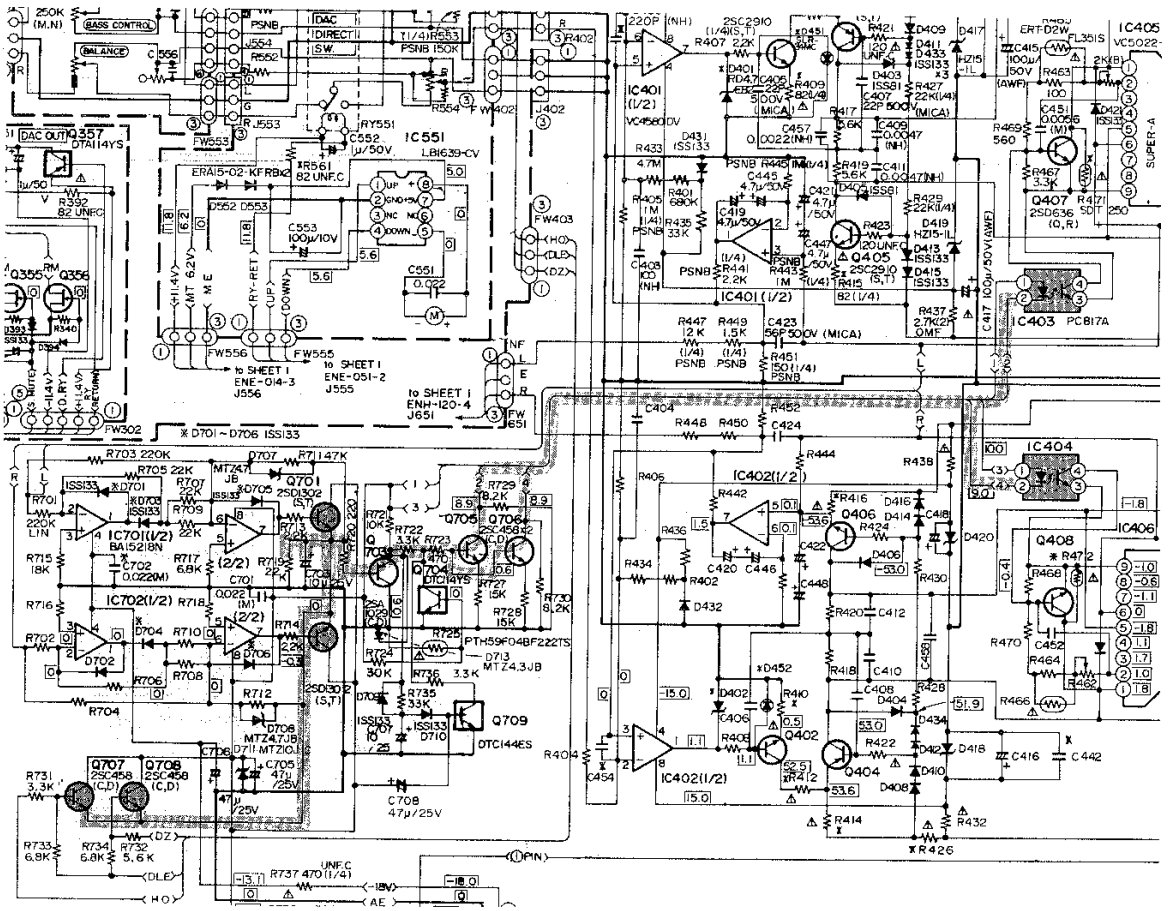


Figure 4. Judgement Circuit and Bias Current Control

Removal Procedures

■ Removing the Top Cover

1. Remove the four screws from the top plate, then the eight screws, each four from either side, and the three screws from the rear side.
2. Lift up off the top cover gently by its rear section. (Figure 1)

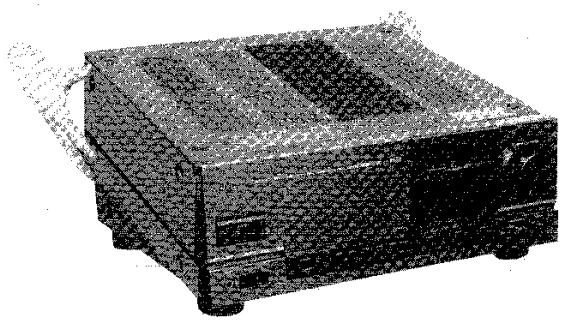


Figure 1.

■ Removing the Front Panel

1. Remove the top cover.
2. Detach the volume control knob.
3. Remove the two plastic rivets fixing the bracket of the indicator board (ENE-051-4), then also the two plastic rivets for ENE-015-5.
4. Remove the six screws fixing the front panel (three from its upper side and the other three from its lower side).

■ Removing the Front PC Board and the Key Input PC Board

1. Remove the front panel.
2. Disconnect the flat wires from connectors J905. J903 and J906 on the front PC board.
3. Remove the six plastic rivets fixing the front PC board and the key input PC board.

Note: Before disconnecting the flat wires, be sure to unlock the connectors.

■ Disconnecting the Protector PC Board

1. Remove the five foot pieces from the bottom cover.
2. Remove the twenty five screws of the bottom cover, then take out the bottom cover.
3. Disconnect all the flat wires from the connectors on the protector PC board.
4. Remove the four screws fixing the protector PC board. (Figure 2)

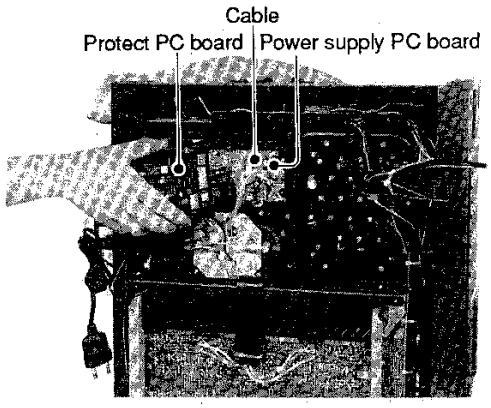


Figure 2.

■ Disconnecting the Power Supply PC Board and Removing the Sub Heat Sink

1. Remove the top cover.
2. Remove the protector PC board.
3. Disconnect the cables fastened round the soldering face of the power supply PC board.
4. Remove the four screws fixing the power supply PC board.
5. Unsolder the sub heat sink from the power supply PC board. (Figure 3)

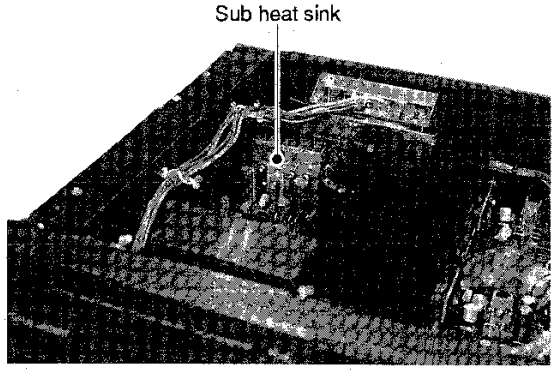


Figure 3.

■ Removing the DAC PC Board

1. Remove the top cover.
2. Remove the bottom cover.
3. Remove the five screws, then release the cable from the four wire bundle bands, and detach the shield cover.

4. Remove the three screws of the rear panel holding the DAC PC board.
5. Disconnect all the flat wires from the connectors on the DAC PC board.
6. Remove the six plastic rivets fixing the DAC PC board to the chassis.

■ Disconnecting the Analog Input PC Board

1. Remove the top cover.
2. Remove the bottom cover.
3. Remove the five screws fixing the pin jacks on the rear panel.
4. Disconnect the flat wires from the connectors on the analog input PC board.
5. Remove the two plastic rivets and detach the analog input PC board from the chassis. (Figure 4)

Note: For reinstalling the board, it seems difficult to insert the plastic rivets into the board as they were. In that case, insert them from the side frame.

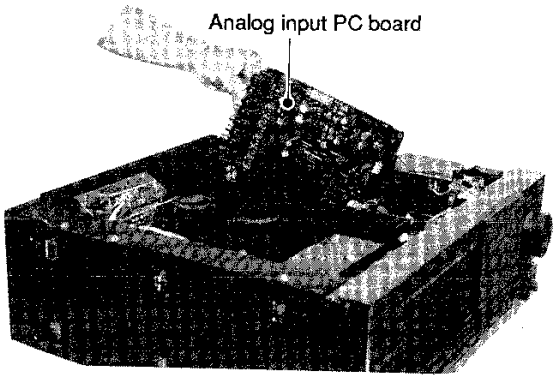


Figure 4.

■ Disconnecting the Motor Control Input Board

1. Remove the front panel.
2. Detach the bass control and balance control knobs.
3. Remove the nut and screw fixing the shaft of the volume control.
4. Remove two screws fixing the shield plate to the chassis.
5. Remove two plastic rivets fixing the board to the bracket.
6. Disconnect the flat wire from the connector on the motor control input board, and unsolder FW552. (Figure 5)

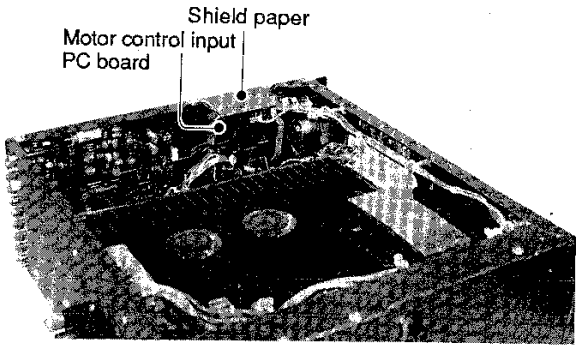


Figure 5.

■ Disconnecting the Power Amplifier PC Board and the Power Transistors

1. Remove the top cover.
2. Remove the bottom cover.
3. Remove the eight screws fixing the power amplifier PC board and the heat sink to the heat sink bracket.
4. Unsolder the eight power transistors.
5. Remove the eight nuts fixing the power transistors by a wrench.

■ Disconnecting the Relay PC Board

1. Remove the top cover.
2. Remove the bottom cover.
3. Remove the twenty three screws and take out the rear panel. (Figure 6)

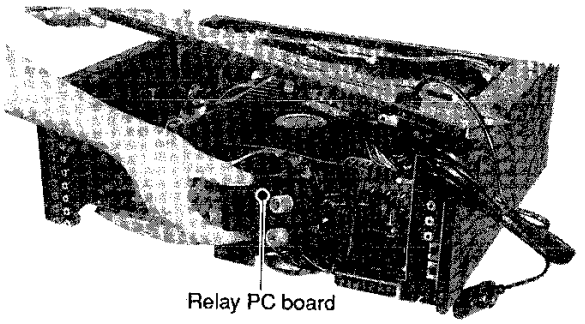


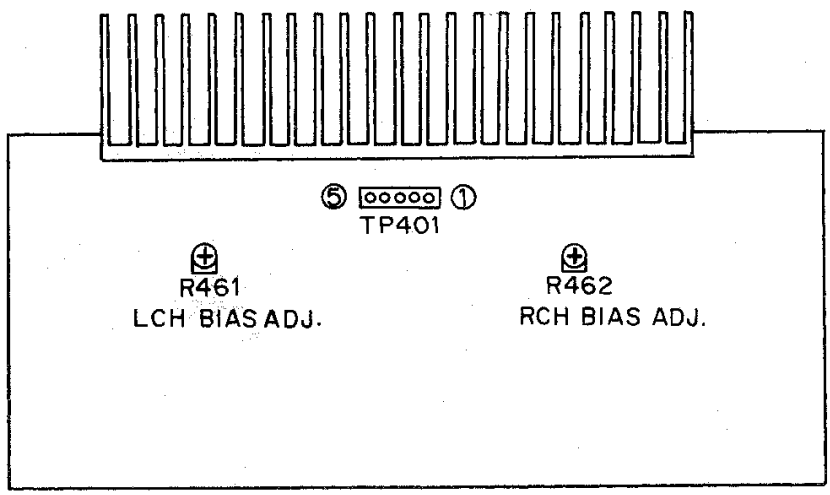
Figure 6.

Adjustment Procedures

■ Power Amplifier Adjustment (Idling Adjustment)

- Idling current adjustment VRs
  L-ch ... R461
  R-ch ... R462
- Idling current detection voltage check points
  L-ch ... TP401 pin ⑤ and pin ④ (Pin ⑤ is the negative side.)
  R-ch ... TP401 pin ① and pin ② (Pin ① is the negative side.)

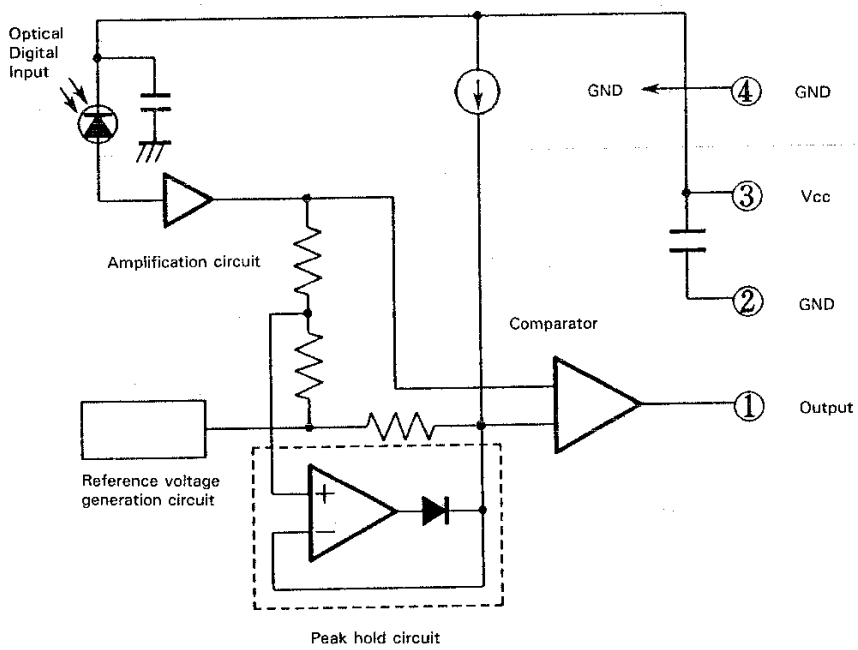
1) Rotate idling VRs (R461, R462) fully counterclockwise.
2) Set the power switch to ON.
3) Adjust R461 and R462 so that each voltage becomes the following value.
   After one minute 5mV
   When stabilized (after 10 minutes) 10mV



Description of Major ICs

■ TORX172 (J101): Optical Receiving Module

(1) Circuit Configuration



(2) Circuit Description

When an optical is input to the Si-PIN photodiode, a current flows with a sensitivity of 0.3 A/W (xp=650 [nm]) or less. This current is impedance-converted and amplified by the amplifier circuit, and the resulting signal voltage is input to the comparator.

On the other hand, the reference voltage of the comparator is given by the ATC (Automatic Threshold Control) circuit. The ATC circuit is made up of a peak hold circuit which detects the peak value of the input voltage and holds this peak value for a certain period. The period during which the peak value is held is known as the "time constant". It is se to 1−3 usec in case of "Toslink".

The signal voltage from the amplifier circuit is divided in two by a resistor and is input to the peak hold circuit. Thus, the comparator performs a comparison between the output voltage of the amplifier circuit and the peak value that is 1/2 the output voltage.

By virtue of this, the comparator output can accurately reproduce the signal transmitted from the optical transmission module of the transmitter at any time, even when the optical input varies.

Moreover, since the reference voltage generation circuit is provided to keep the output voltage at the same level as the voltage output of the amplifier circuit when there is no optical input, so that the reference voltage varies according to the temperature drift in the amplifier circuit to minimize the change in property due to the temperature variation.

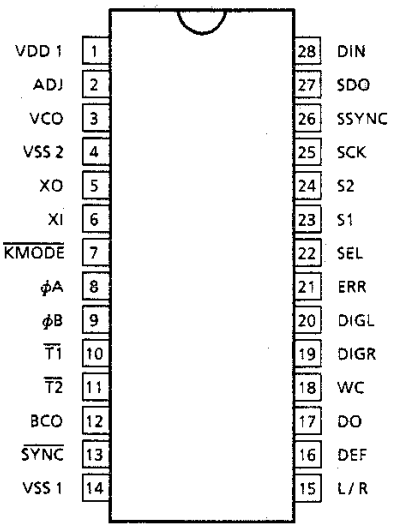
In addition, a constant current power supply is provided and the reference voltage of the comparator is set slightly higher than the output voltage of the reference voltage generation circuit so that the transmission is made accurately even under the condition that there is no optical input for a long period.

■ YM3623B (IC106): Digital Audio Interface Receiver

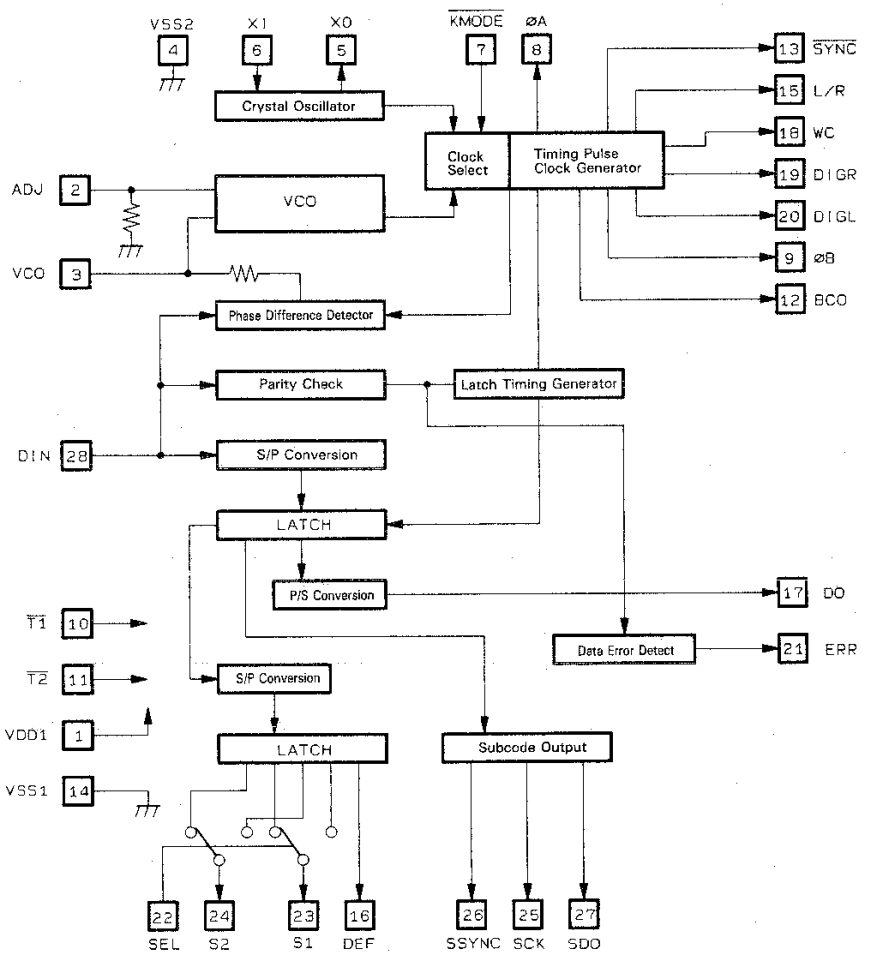
(1) Function

1) A PLL circuit is incorporated to synchronize with a digital signal (conforming to the Digital Audio Interface Format) which is transmitted from the outside. Therefore, the sampling frequency is followed up automatically.
2) This outputs the audio signal with its MSB first. In synchronism with it, this outputs the timing clock for sampling and holding the D/A output, the L-channel and R-channel signals.
3) Since this is provided with pins to output the subcode, it is feasible to pick up the subcode.
4) This can output the sampling frequency, the copy enable signal, and the signals indicating the presence/absence of emphasis and the existence/nonexistence of error in the audio signal transmitted.
5) When an error is detected in a digital signal conforming to the Digital Audio Interface Format, the previous audio data is output again.

(2) Appearance



(3) Block Diagram



(4) Pin Description

Any pin accompanied by "(PU)" is pulled up internally.

Pin No.	Pin Name	V/O	Function
1	VDD		System power supply (+5V)
2	ADJ	I	VCO oscillation frequency adjustment pin. No. connection
3	VCO	I/O	Externally connected capacitor pin for VCO circuit
4	VSS2		GND pin for VCO circuit. Connected in common with VSS1. They are not common inside the LSI.
5	XO	O	Ceramic oscillator pin (18.00 MHz)
6	XI	I	Ceramic oscillator pin
7	$\overline{\text{KMODE}}$	I(PU)	H: Activates the PLL circuit when a signal is input to the DIN pin. Operates on the ceramic oscillator when no signal is input to the DIN pin. L: Operates on the ceramic oscillator independent of the state of the DIN pin.
8	ϕA	O	18.00 MHz when the ceramic oscillator is engaged. When the PPL circuit is engaged, the frequency varies according to the data rate of the signal input to the DIN pin. (Approx. 16.9344 MHz when fs=44.1 kHz)
9	ϕB	O	1/3 divided ϕA when the ceramic oscillator is engaged. When the PPL circuit is engaged, the frequency caries according to the data rate of the signal input to the DIN pin. (Approx. 5.6448 MHz when fs=44.1 kHz)
10	$\overline{\text{T1}}$	I(PU)	Internal circuit check pin
11	$\overline{\text{T2}}$	I(PU)	Internal circuit check pin
12	BCO	O	Timing clock of signal output from DO pin
13	$\overline{\text{SYNC}}$	O	Sync signal
14	VSSI	O	System GND
15	L/R	O	H: Indicates that the L-channel data is output from the DO pin. L: Indicates that the R-channel data is output from the DO pin.
16	DEF	O	H: Indicates that the input data has been emphasized. L: Indicates that the input data has not been emphasized.
17	DO	O	16-bit data output
18	WC	O	Indicates that the data is output to the DO pin.
19	DIGR	O	R-channel deglitch signal
20	DIGL	O	L-channel deglitch signal
21	ERR	O	H: Indicates a parity error, or operation on the ceramic oscillator. L: Indicates no error.
22	SEL	I(PU)	Refer to the table below.
23	S1	O	Refer to the table below.
24	S2	O	Refer to the table below.
25	SCK	O	Clock for subcode output
26	SSYNC	O	Signal for subcode
27	SDO	O	Subcode data output pin
28	DIN	I(PU)	Data input pin

***Concerning S1, S2 and SEL:**

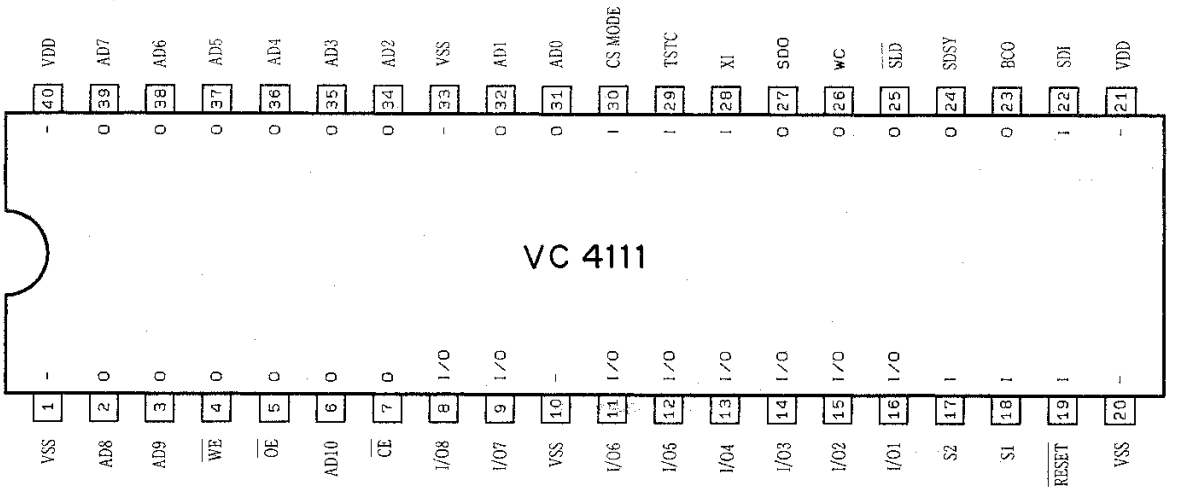
The S1 and S2 pins have a multiplied output function.
The S1 and S2 outputs are changed by switching the SEL pin input.

Input	Output		Output	
SEL	S1	Function	S2	Function
L	L	Copy inhibit	L	CD (other than DAT)
	H	Copy enable	H	DAT
H	L		L	DIN input signal's sampling frequency 44.1 kHz
	L		H	48 kHz
	H		H	32 kHz
	H		L	—

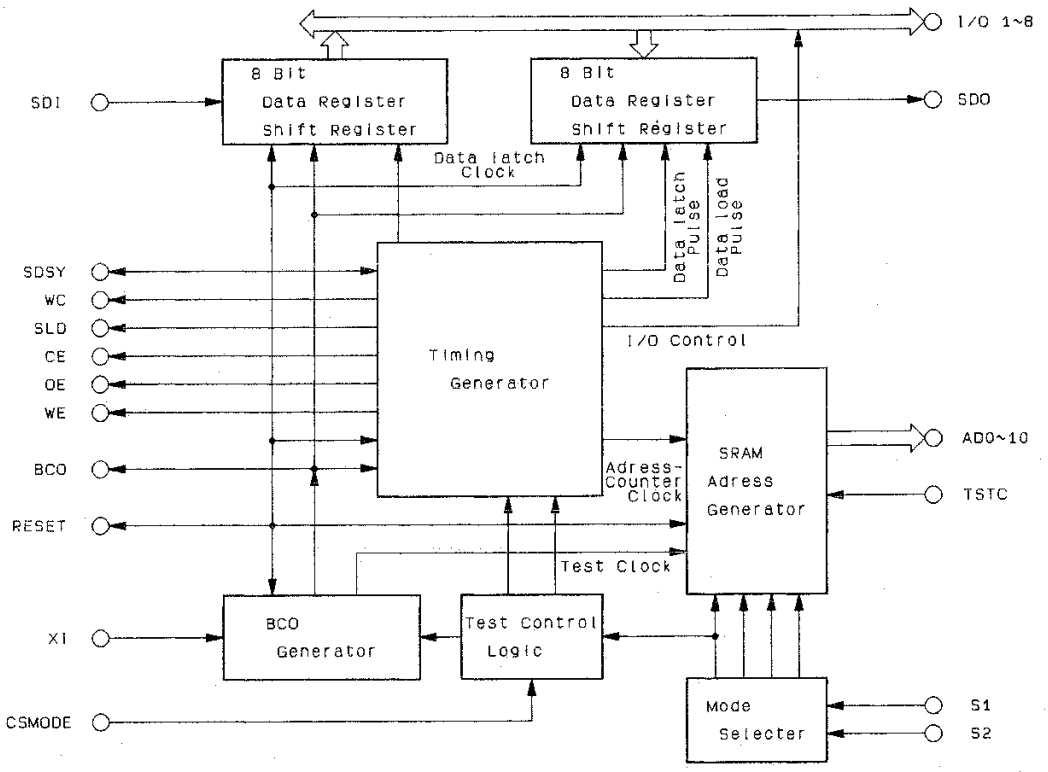
As shown above, the required data is picked up from the input digital signal conforming to the Digital Audio Interface Format and output to the S1 and S2 pins.

■ VC4111 (IC108): K2 Interface and Delay Circuit

(1) Appearance



(2) Internal Block Diagrm



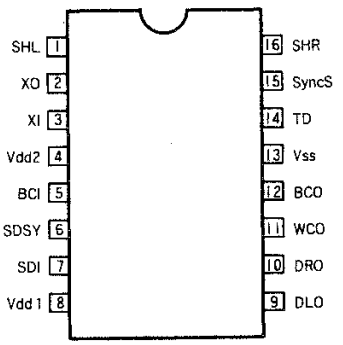
(3) Pin Description

Pin No.	Pin Name	I/O	Function
1	VSS	—	GND
2	AD8	O	SRAM memory address signal output pins
3	AD9	O	
4	$\overline{WE}$	O	SRAM memory $\overline{WE}$ signal output pin
5	$\overline{OE}$	O	SRAM memory $\overline{OE}$ signal output pin
6	AD10	O	SRAM memory address signal output pin
7	$\overline{CE}$	O	SRAM memory $\overline{CE}$ signal output pin
8	I/O8	I/O	SRAM memory data signal I/O pin
9	I/O7	I/O	
10	VSS	—	GND
11	I/O6	I/O	SRAM memory data signal I/O pins
12	I/O5	I/O	
13	I/O4	I/O	
14	I/O3	I/O	
15	I/O2	I/O	
16	I/O1	I/O	
17	S2	I	LSI operation mode select input pin
18	S1	I(CMOS)	
19	$\overline{RESET}$	I(CMOS)	LSI reset input pin, The LSI is initialized with $\overline{RESET}$ "L".
20	VSS	—	GND
21	VDD	—	Supply voltage
22	SDI	I(CMOS)	Serial data input pin. The data synchronized with the fall of the BCO clock is input in the MSB first mode.
23	BCO	O(CMOS)	Serial data shift clock output pin
24	SDSY	O(CMOS)	Fs signal (sampling frequency) output pin
25	$\overline{SLD}$	O	At the rise of the WC output signal, outputs an "L" signal with a width of two clock pulses in synchronization with the rise of the BCO clock.
26	WC	O	Outputs the 2Fs signal synchronized with the Fs signal.
27	SDO	O	Serial data output pin Outputs the serial data previous 10 msec and read from the SRAM, in the MSB first mode in synchronization with the fall of the BCO clock.
28	XI	I(CMOS)	Clock input pin
29	TSTC	I(CMOS)	Input pin to select the test status of the address counter in the LSI when the test mode is engaged.
30	CS MODE	I(CMOS)	Input pin to select the LSI operating condition.
31	AD0	O	SRAM memory address signal output pins
32	AD1	O	
33	VSS	—	GND
34	AD2	O	SRAM memory address signal output pins
35	AD3	O	
36	AD4	O	
37	AD5	O	
38	AD6	O	
39	AD7	O	
40	VDD	—	Supply voltage pin

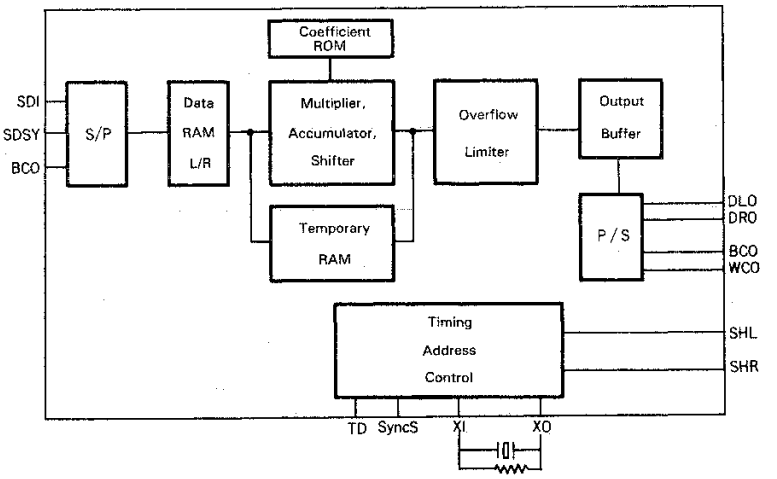
S2	S1	Selection
L	L	Fs = 44.1 kHz selected
L	H	Test mode
H	L	Fs = 48 kHz selected
H	H	Ps = 32 kHz selected

■ YM3414 (IC113): Octuple Oversampling (18-bit resolution) · Digital Filter

(1) Appearnace



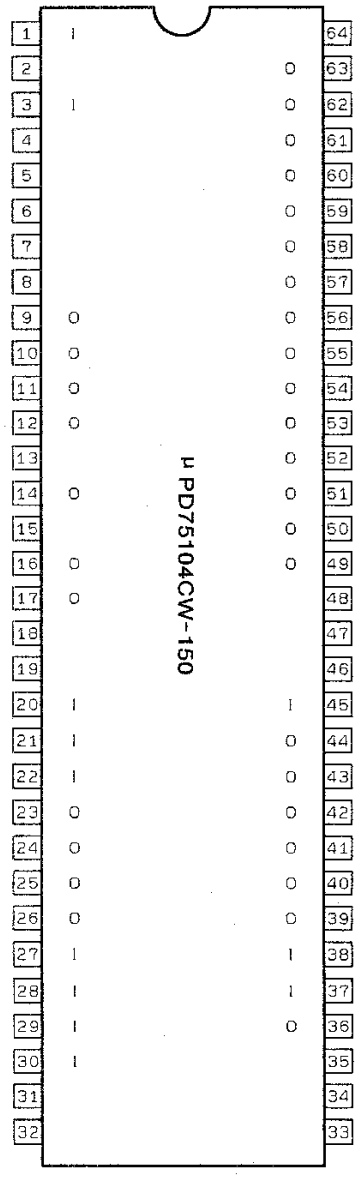
(2) Internal Block Diagram



(3) Pin Description

Pin No.	Pin Name	I/O	Function
1	SHL	O	When operating with 1 D/A converter (TD="L"): L-channel deglitcher signal (for quadruple mode) When operating with 2 D/A converts (TD="H"): L/R-channel deglitcher signal (for octuple mode)
2	XO	O	Crystal oscillates between XI-XO.
3	XI	I	16.9344 MHz (External clock can also be input directly.)
4	Vdd2	—	+5V power supply pin for crystal oscillator and deglitcher signal
5	BCI	I	Input data bit clock input pin
6	SDSY	I	Input data L-channel input timing clock input pin
7	SDI	I	Data input pin
8	Vdd1	—	+5V power supply pin for digital signal system
9	DLO	O	When operating with 1 D/A converter (TD="L"): L/R-channel data output in (for quadruple mode) When operating with 2 D/A converters (TD="H"): L-channel data output pin (for octuple mode)
10	DRO	O	R-channel data output pin
11	WCO	O	Word clock for output data DLO and DRO
12	BCO	O	Output data bit clock
13	Vss	—	GND pin
14	TD	I	1 DAC/2 DACs select pin. 1 DAC (for quadruple mode)="L", 2 DACs (for octuple mode)="H"
15	Syncs	I	Day sync input jitter absorption sync signal (Syncs="H": complete sync input, Syncs="L": SDSY inhibit)
16	SHR	O	R-channel deglitcher signal when operating with 1 DAC

■ μPD75104CW-150 (IC901): System Control Microcomputer



"Compulink" signal input	DCS-IN	1	I		64	GND	Connected to GND
Protection circuit operation sensing input	PROTECT	2		O	63	DCS OUT	"Compulink" signal output
Remote control signal input	RM-IN	3	I	O	62	VOLUME IND	Volume indicator output
Power OFF detection	INH	4		O	61	VOLUME DOWN	Volume down control output
Connected to GND	GND	5		O	60	VOLUME UP	Volume up control output
Connected to GND	GND	6		O	59	LINE 1 (TUNER)	LINE1 (TUNER) input select display output
Connected to GND	GND	7		O	58	PHONO	PHONO input select display output
Connected to GND	GND	8		O	57	TAPE 1 MONITOR	TAPE1/DAT2 input select display output
Digital (CD/CDV) input select display output	CD DIGITAL	9	O	O	56	LINE 2	LINE2 input select display output
Digital (DAT) input select display output	DAT DIGITAL	10	O	O	55	CD(ANALOG)	CD/CDV input select display output
Digital delay ON signal output	DIGITAL RELAY ON	11	O	O	54	LINE3(AUX)	LINE3 (AUX) input select display output
DAC muting signal output	MUI DAC MUTING	12	O	O	53	DAT 1	DAT1/TAPE2 input select display output
Analog signal muting signal output	SMUTE ANALOG MUTE	13		O	52	(OPT) (DIGITAL1/CD)	DIGITAL1/CD OPT display output
Strobe output to IC351	STB	14	O	O	51	AUX (DIGITAL2)	AUX (DIGITAL2) display output
Connected to GND	GND	15		O	50	DAT (DIGITAL3)	DATA (DIGITAL3) display output
Data output to IC351	DATA	16	O	O	49	DAC DIRECT	DAC DIRECT input select display output
Clock output to IC351	SCK	17	O		48	GND	Connected to GND
Connected to GND	GND	18			47	X1	Oscillator connection pin
Connected to GND	GND	19			46	X2	Oscillator connection pin
Signal input from IC106 (YM3623B)	ERR	20	I	I	45	RESET	Reset signal input
Signal input from IC106 (YM3623B)	S1	21	I	O	44	POWER IND	Power indicator output
Signal input from IC106 (YM3623B)	S2	22	I	O	43	fs48KHzLOCK	Sampling frequency 48 kHz display output
Key matrix output	KEY out3	23	O	O	42	fs44KHzLOCK	Sampling frequency 44 kHz display output
Key matrix output	KEY out2	24	O	O	41	fs32KHzLOCK	Sampling frequency 32 kHz display output
Key matrix output	KEY out1	25	O	O	40	SPK 1 ON	Speaker 1 indication, select output
Key matrix output	KEY out0	26	O	O	39	SPK 2 ON	Speaker 2 indication, select output
key matrix input	KEY in3	27	I	I	38	DS 1	Digital (source) input select
key matrix input	KEY in2	28	I	I	37	DS 2	Digital (source) input select
key matrix input	KEY in1	29	I	O	36	REMOCON LED	Remote control indicator output
key matrix input	KEY in0	30	I		35	D/A SELECT	Digital power ON/OFF select output
	NC	31			34	GND	Connected to GND
Power supply pin	Vdd	32			33	GND	Connected to GND

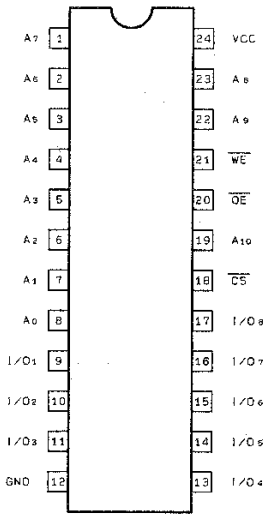
Source is either AUX or CD selected by DS2.

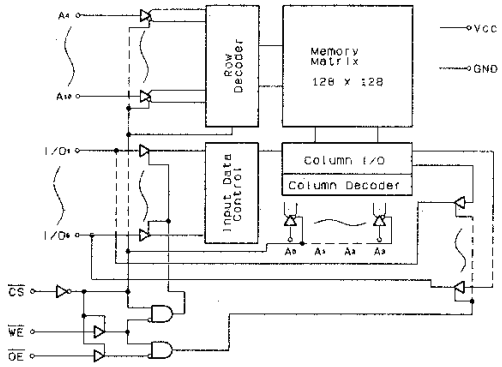
DS1 H:DAT MONITOR, L:SOURCE

DS2 H: AUX, L:CD

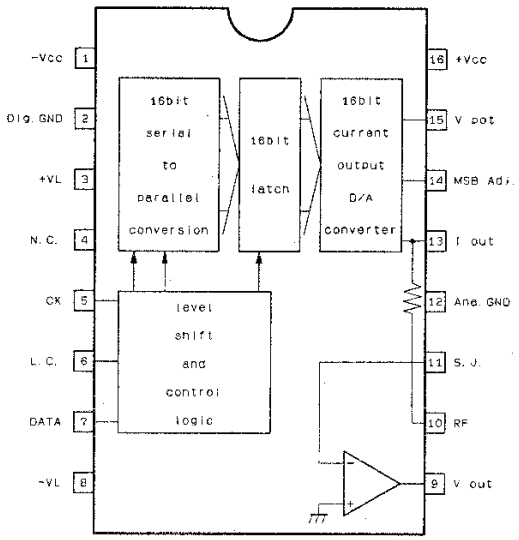
Internal Block Diagrams of Other ICs

■ LC3517BSL-15 (IC109): Static RAM



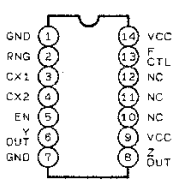


■ PCM56P (IC201, IC202): D/A converters

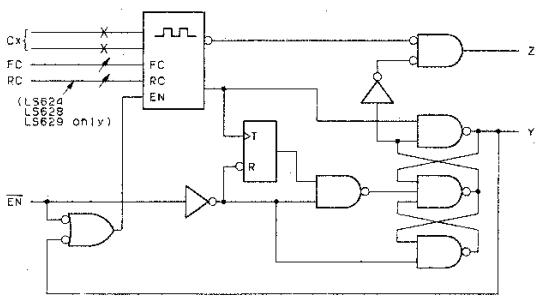


■ SN74LS624N (IC110): Voltage Controlled Oscillator (VCO)

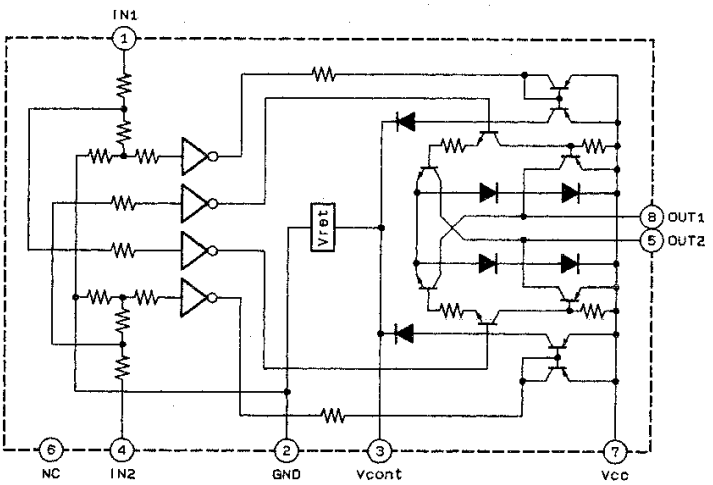
(1) Pin Connections



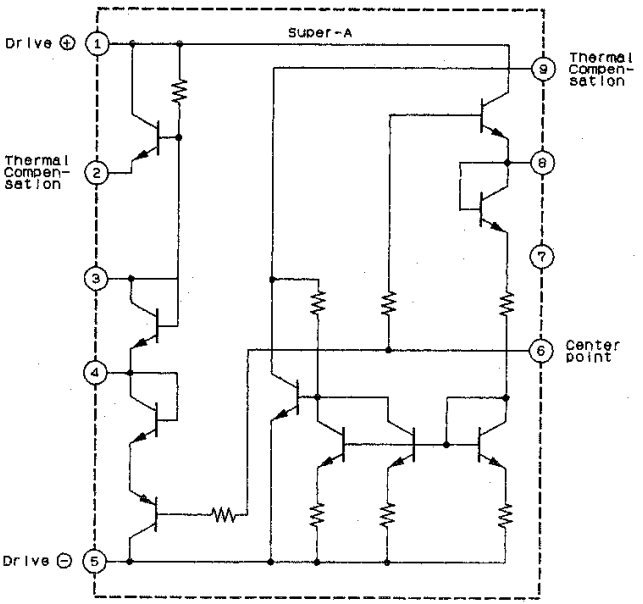
(2) Block diagram



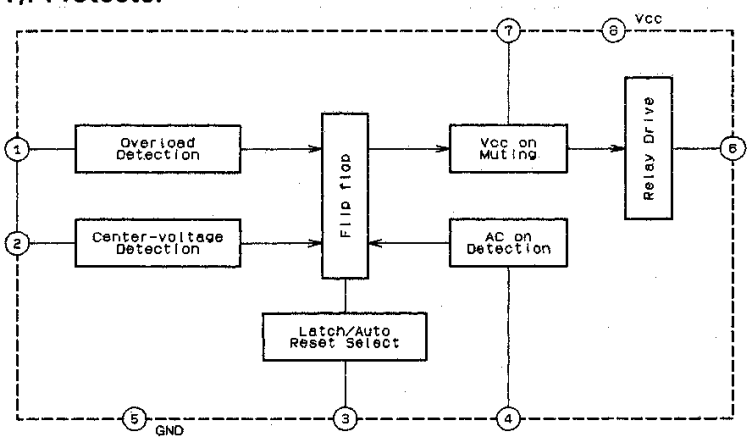
■ LB1639-CV (IC551): Motor Driver



■ VC5022-2 (IC405, IC406): Super-A ICs

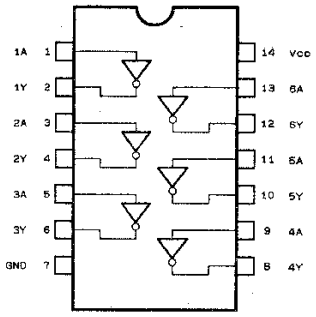


■ μPC1237HA (IC551): Protector



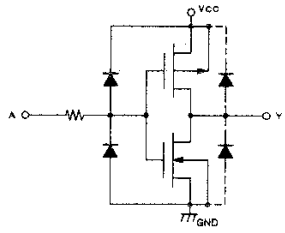
■ TC74HCU04P (IC101): CMOS Inverter

(1) Pin Connections



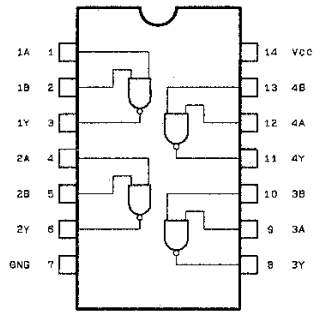
(TOP VIEW)

(2) Block Diagram



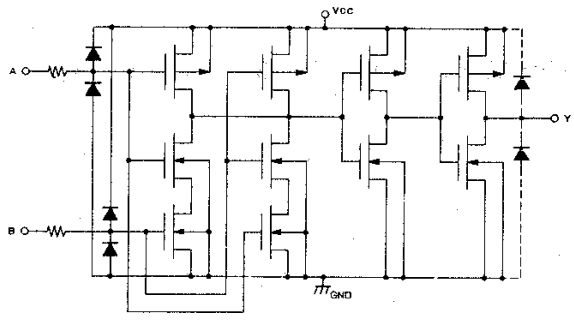
■ TC74HC00P (IC102, IC103): CMOS 2-Input NAND Gates

(1) Pin Connections



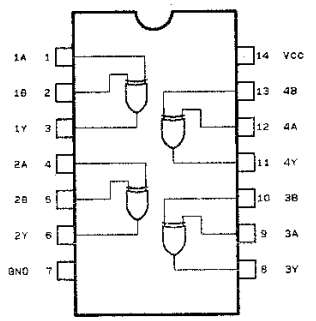
(TOP VIEW)

(2) Block Diagram



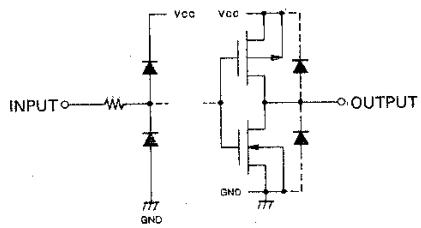
■ TC74HC86P (IC105): CMOS Exclusive OR Gates

(1) Pin Connections



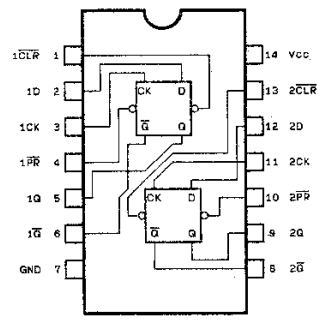
(TOP VIEW)

(2) Block Diagram



■ TC74HC74AP (IC114, IC115, IC116, IC261, IC262): CMOS D Type Flip-flops

(1) Pin Connections



(TOP VIEW)

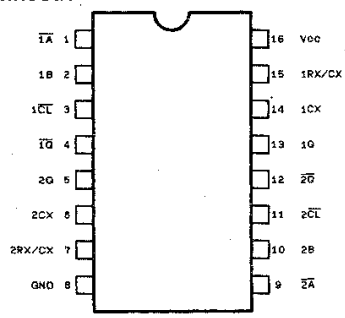
(2) Truth Table

INPUTS				OUTPUTS		FUNCTION
$\overline{CLR}$	$\overline{PR}$	D	CK	Q	$\overline{Q}$	
L	H	X	X	L	H	CLEAR
H	L	X	X	H	L	PRESET
L	L	X	X	H	H	—
H	H	L	↑	L	H	—
H	H	H	↑	H	L	—
H	H	X	↓	Q_n	$\overline{Q}_n$	NO CHANGE

X : Don't care

■ TC74HC123P (IC263): CMOS 2-circuit Monostable · Multivibrator

(1) Pin Connections



(TOP VIEW)

(2) Truth Table

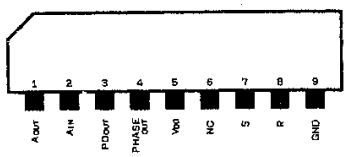
INPUTS			OUTPUTS		NOTE
$\overline{A}$	B	$\overline{CL}$	Q	$\overline{Q}$	
↓	H	H	⎍	⎎	OUTPUT ENABLE
X	L	H	L	H	INHIBIT
H	X	H	L	H	INHIBIT
L	↑	H	⎍	⎎	OUTPUT ENABLE
L	H	↑	⎍	⎎	OUTPUT ENABLE
X	X	L	L	H	INHIBIT

X : Don't care

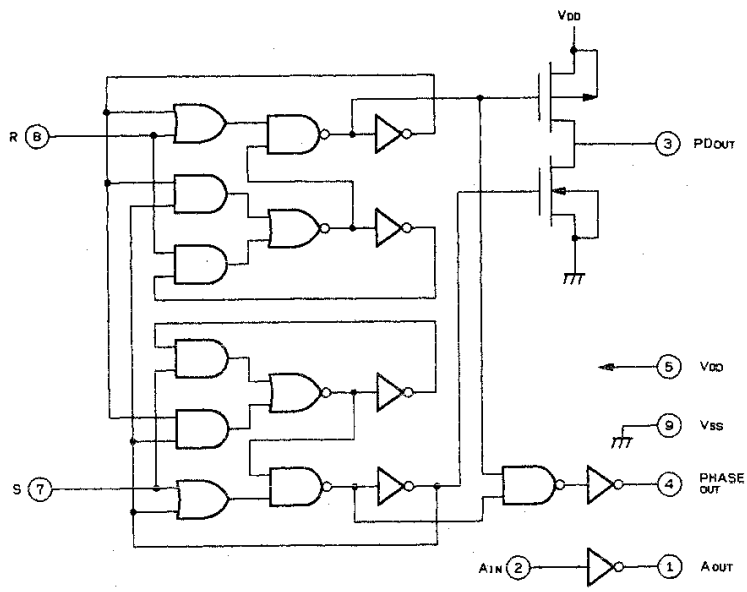
■ TC5081AP (IC104): Phase Detector for PLL Frequency Synthesizer Phase

The phase comparator detects the difference in phase between two input pulses and outputs a negative or positive pulse proportional to this detection to the PD OUT pin.

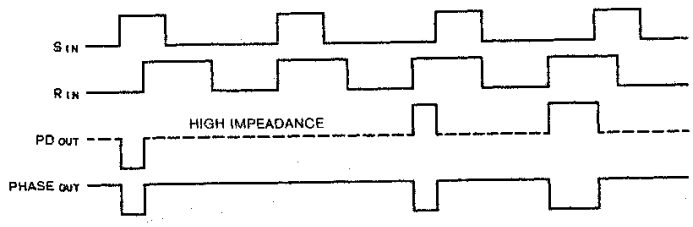
(1) Pin Connections



(2) Logic Diagram



(3) Phase Comparator Timing Chart



MEMO

MEMO

JVC

VICTOR COMPANY OF JAPAN LIMITED
AUDIO PRODUCTS DIVISION, YAMATO PLANT, 1644, SHIMOTSURUMA, YAMATO-SHI, KANAGAWA-KEN, 242, JAPAN

(No. 20115)

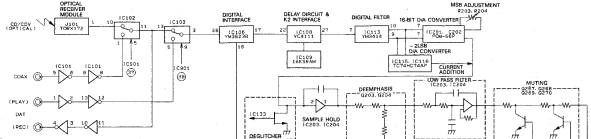
Printed in Japan
8906 (G)

PARTS LIST

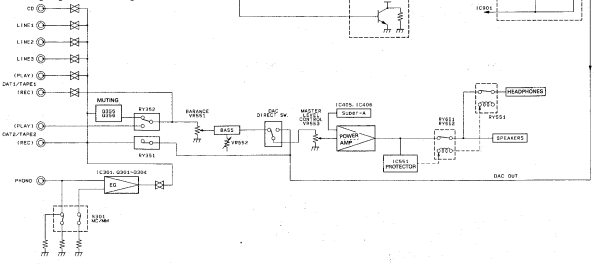
Contents

Block Diagrams

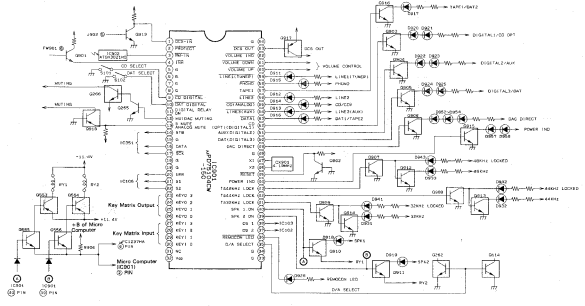
■ Digital Signal Processing Circuit



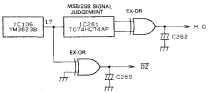
■ Analog Signal Processing Circuit



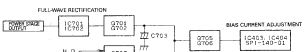
■ System Control Microprocessor Peripheral Circuit



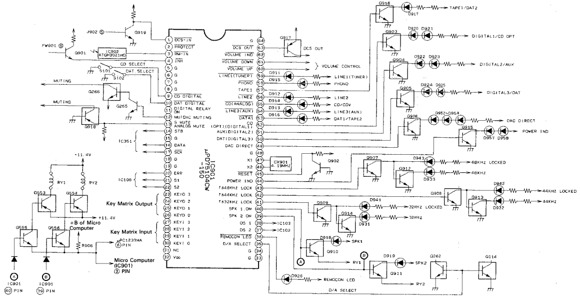
■ Signal Prediction Circuit



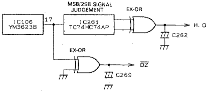
■ Bias Current Adjustment Circuit



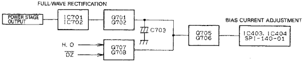
System Control Microprocessor Peripheral Circuit



Signal Prediction Circuit



Bias Current Adjustment Circuit



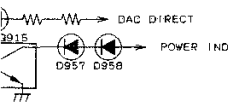
10TN

/DAT2

DIGITAL1/CD OPT

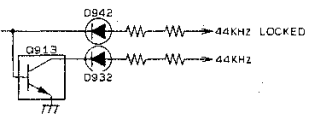
DIGITAL2/AUX

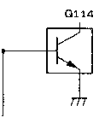
DIGITAL3/DAT



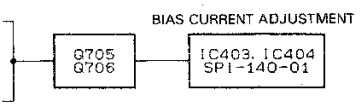
48KHz LOCKED

46KHz





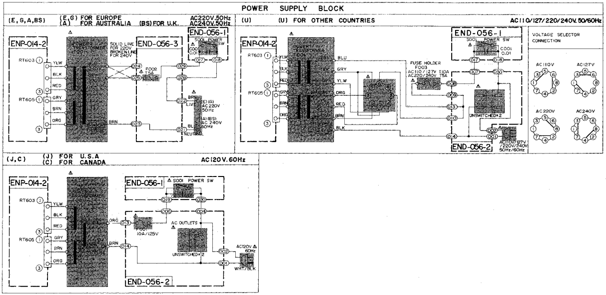
ircuit



15)

Schematic Diagrams

■ Power Primary Section



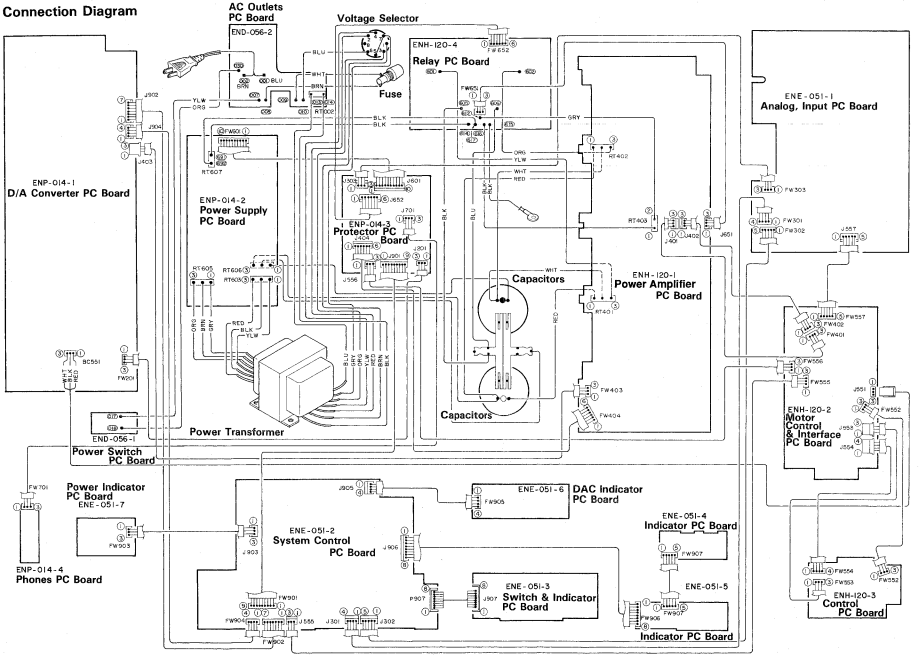
SHEET 1

	J, C	G	OTHERS
R601, 602	UNF.C	UNF. F	UNF. F
C671 ~ 673	NONE	USED	NONE
C559	〃	〃	〃
C557, 558	〃	〃	〃
Ⓐ, Ⓑ	〃	〃	〃
C601	0.01	0.047	0.01
F601, 602	1.25A / 125V	T1.25A	T1.25A
R562	SHORT	USED	USED
C613, 614	0.022	0.1 (TF)	0.022
C615	0.022 (TF)	0.1 (TF)	0.022 (TF)

SHEET 2

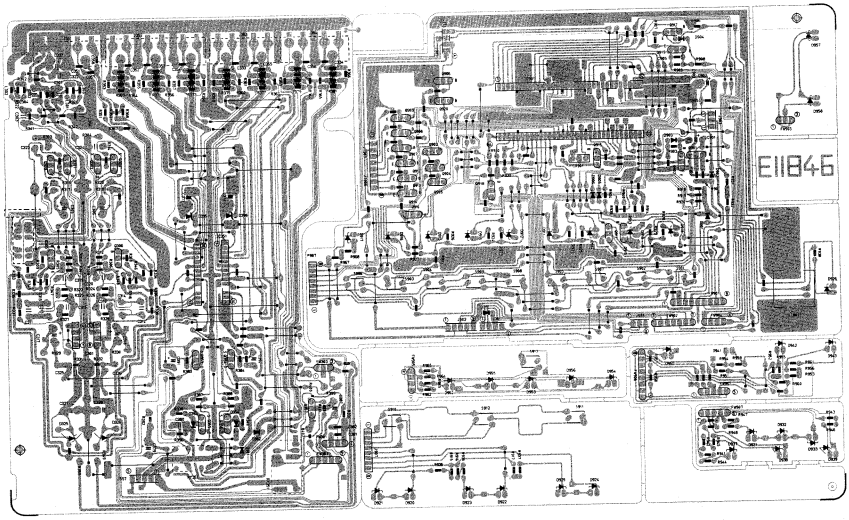
	J, C	G	OTHERS		J, C	G	OTHERS		J, C	G	OTHERS
R283, 284	UNF.C	UNF.F	UNF.F	R471, 472	NONE	USED	USED	C441, 442	NONE	USED	NONE
R285, 286	〃	〃	〃	R291, 292	UNF.C(1/4)	UNF.C(1/2)	UNF.C(1/2)	C455	〃	〃	〃
R481 ~ 488	2.2 0/2WUNF.C	0.22(1)0.MF	0.22(1)0.MF	R349, 350	〃	〃	〃	D451, 452	〃	〃	USED
R515, 516	UNF. C	UNF.F	UNF.F					D401, 402	USED	NONE	NONE
R517, 518	〃	〃	〃	R321, 322	SHORT	USED	SHORT	R415, 416	UNF.C	UNF.F	UNF.F
R519, 520	〃	〃	〃	L301 ~ 304	NONE	–	NONE	R561	NONE	USED	USED
R521, 522	〃	〃	〃	C321, 322	〃	〃	〃	R403	〃	〃	〃
R477 ~ 480	〃	〃	〃	C351 ~ 356	〃	〃	〃	Q275	2SA1015 (Y,GR)	2SB1274 (R,S)	2SB1274 (R,S)
R513, 514	〃	〃	〃	C334, 335	〃	〃	〃				
R511, 512	〃	〃	〃	C357 ~ 372	〃	〃	〃	R553, 554	USED	NONE	NONE
R473 ~ 476	〃	〃	〃	C303, 304	0.001(NH)	220P(NH)	0.001(NH)	K103	〃	〃	USED
R413, 414	〃	〃	〃	R425, 426	USED	SHORT	SHORT	K104	NONE	USED	NONE
R411, 412	100UNF.C	33UNF.F	33UNF.F	C453, 454	NONE	USED	〃	K105	NONE	USED	NONE
R409, 410	UNF.C	UNF.F	UNF.F	RT403 ①-②	OPEN	SHORT	OPEN	K106	〃	〃	〃

Connection Diagram

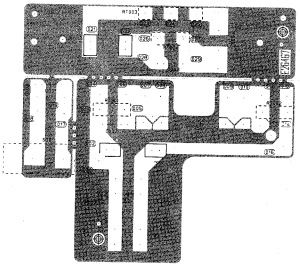


Printed Circuit Board A'ssay

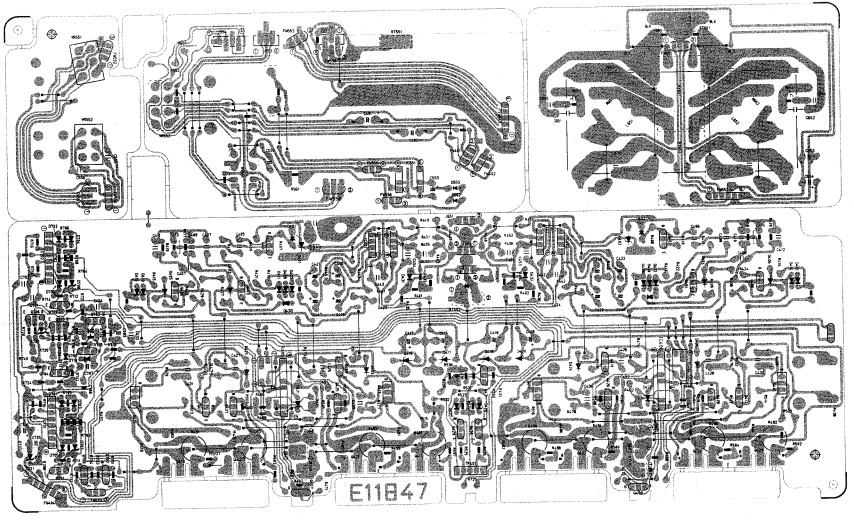
■ Font & Analog Input PC Board (ENE-051)



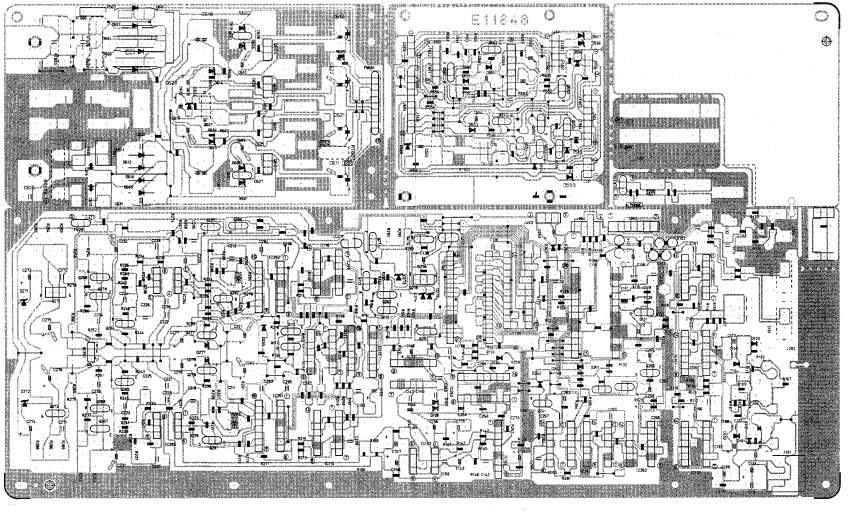
■ **Power Switch & AC Outlets PC Board (END-056)**



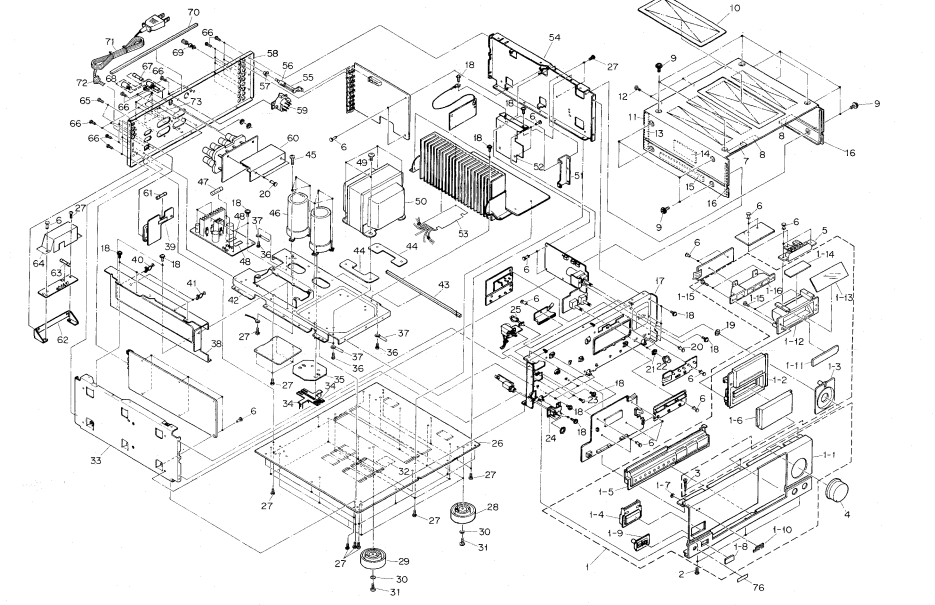
■ Power Amplifier PC Board (ENH-120)



■ DAC & Power Supply PC Board (ENP-014)



Exploded Views and Parts List



■ Parts List

⚠	Item	Part Number	Part Name	Q'ty	Description	Areas
	1	EFP-AXZ1010TNE	Front Panel Ass'y	1		
	1-1	E11838-002	Front Panel	1		
	1-2	E26167-002	Front Escutcheon Ass'y	1		
	1-3	E30494Y9-004	Knob Ring	1		
	1-4	E30568A-003	Push Button Ass'y	1		
	1-5	E30568Y-002	Push Button Ass'y	1		
	1-6	E30573R-002	Window Screen	1		
	1-7	E60912-003	Speed Nut	1		
	1-8	E75006R-001	Plate	1		
	1-9	E75007-001	Remote Control Escutcheon	1		
	1-10	PQ42376-1-3	JVC Mark	1		
	1-11	E75012-001	Plate	1		
	1-12	E26169-001	Back Cover	1		
	1-13	E75011-001	Plate	1		
	1-14	E75014-001	Plate	1		
	1-15	S8SF3008Z	Screw	4		
	1-16	E30569Y-001	LED Holder	1		
	2	S0S8300BMCP	Screw	3		
	3	E66052-006	Special Screw	3		
	4	E30569Y-002	Volume Knob	1		
	5	E30569B-002	LED Holder	1		
	6	E48729-008	Plastic Rivet	25		J,C,U
		E48729-008	Plastic Rivet	28		Except J,C,U
	7	E67000-005	Caution Label	1		
	8	EXO1000040N6502	Spacer	2		
	9	E61693-004	Special Screw	12		
	10	E30623-001	Protect Sheet	1		E,EF,RS,U
	11	E26173-004	Metal Cover	1		E,EF,RS,U
		E26173-005	Metal Cover	1		J,C,A,G
	12	S8S8300BMCP	Screw	3		
	13	EXO130004R20510	Spacer	2		
	14	EXO0750400N4502	Spacer	2		
	15	EXO1509010R30510	Spacer	2		
	16	E75165-003	Sheet	2		
	17	E11B41-002	Front Bracket	1		
	18	G8S8300BCC	Screw	27		
	19	E21B62-003	Volume Nut	1		
	20	E48729-007	Plastic Rivet	3		
	21	E71B62-001	Volume Nut	2		
	22	E75016-003	Knob	2		
	23	S0ST3006CC	Screw	2		
	24	E75017-001	Headphone Bracket	1		
	25	E30594E-001	Wire Clamp	1		
	26	E11538-004	Bottom Cover	1		
	27	S8SG3008CC	Screw	28		J,C,U
		S8S8300BCC	Screw	29		Except J,C,U
	28	E75018-005	Foot Ass'y	4	Corner	
	29	E75018-006	Foot Ass'y	1	Center	
	30	WNS4000CC	Washer	5		
	31	E61661-005	Special Screw	5		
	32	E70781-001	Caution Label	1		J
		E70115-002	Caution Label	1		Except J,C,U
	33	E11537-003	Frame	1	Left	
	34	E73690-002	Earth Plate	2		
	35	E75065-003	Sheet	1		
	36	S8ST3006M	Screw	4		
	37	E50670-005	Wire Clamp	4		
	38	E26172-003	Shield Cover	1		
	39	E61380-022	Fuse Label	1		J,C
	40	QHW2052-001	Wire Clamp	1		

⚠ Safety Parts

⚠	Item	Part Number	Part Name	Q'ty	Description	Areas
	41	QHW2115-001	Wire Clamp	2		
	42	E11B40-003	Trans Base	1		
	43	EXO2700050N6502	Felt Spacer	1		
	44	E75097-003	Trans Sheet	2		
	45	SDST4010CC	Screw	6		
⚠	46	EEY63U2-189	Electrolytic Capacitor	2	C002,C003	
⚠	47	QMF51U1-1R25S	Fuse	2	F601,F602	J,C
⚠		QMF51E2-1R25J1	Fuse	2	F601,F602	A,E,EF,G,U
⚠		QMF51E2-1R2J1BS	Fuse	2	F601,F602	BS
	48	E61380-029	Caution Label	2		J,C
	49	E65389-006	Special Screw	4		
⚠	50	ETP1300-05JA	Power Transformer	1		J,C
⚠		ETP1300-05FA	Power Transformer	1		U
⚠		ETP1300-05EA	Power Transformer	1		A,E,EF,G
⚠		ETP1300-05EABS	Power Transformer	1		BS
	51	E75020-001	Circuit Board Bracket	1		
	52	E30604Z-001	Shield Plate	1		
	53	E75166-001	Shield Plate Ass'y	1		
	54	E11537-004	Frame	1	Right	
	55	E69337-001	Push Shaft	1		
	56	E66226-001	Push Shaft	1		
	57	C40755-002	Push Knob	1		
	58	E26170-002	Rear Panel	1		J,C
		E26170-003	Rear Panel	1		U
		E26170-004	Rear Panel	1		Except J,C,U
	—	E30328D-199	Rating Label	1		E,EF,G
	59	QSR0085-009	Voltage Selector	1		U
	60	E75478-001	Circuit Borad Cover	1	Speaker	
⚠	61	QMF61M1-100	Fuse	1	F001	J,C
	62	E71074-002	Bracket	1		Except J,C,U
⚠	63	QMF51E2-5R0J1	Fuse	1	F002	A,E,EF,G
⚠		QMF51E2-5R0J1BS	Fuse	1	F002	BS
	64	E72922-004	Primany Cover	1		Except J,C,U
	65	E74304-002	Special Screw	2		J,C,U
	66	E73273-003	Special Screw	23		J,C
		E73273-003	Special Screw	25		Except J,C
⚠	67	QMF51E2-5R0J1	Fuse	1	F003	U
	68	EFG0301-003	Fuse Holder	1		U
	69	E70078-001	GND Terminal	1		
	70	EXO3000109N0502	Spacer	1		
⚠	71	QMP14B0-200H	Power Cord	1		J,C
⚠		QMP7520-200	Power Cord	1		U
⚠		QMP3900-200	Power Cord	1		E,EF
⚠		QMP2560-244	Power Cord	1		A
⚠		QMP39A0-200	Power Cord	1		G
⚠		QMP9017-00BBS	Power Cord	1		BS
⚠	72	QHS3771-108	Cord Stopper	1		Except BS
⚠		QHS3771-108BS	Cord Stopper	1		BS
	73	E67199-001	Caution Label	1		J
		E65507-001	Caution Label	1		C
	74	E73684-002	Wire Cover	1		
	75	EWH6B0-30XL2	Para Wire	2		
	76	E49267-001	Origin Marking Label	1		BS

⚠ Safety Parts

The Marks for Designated Areas

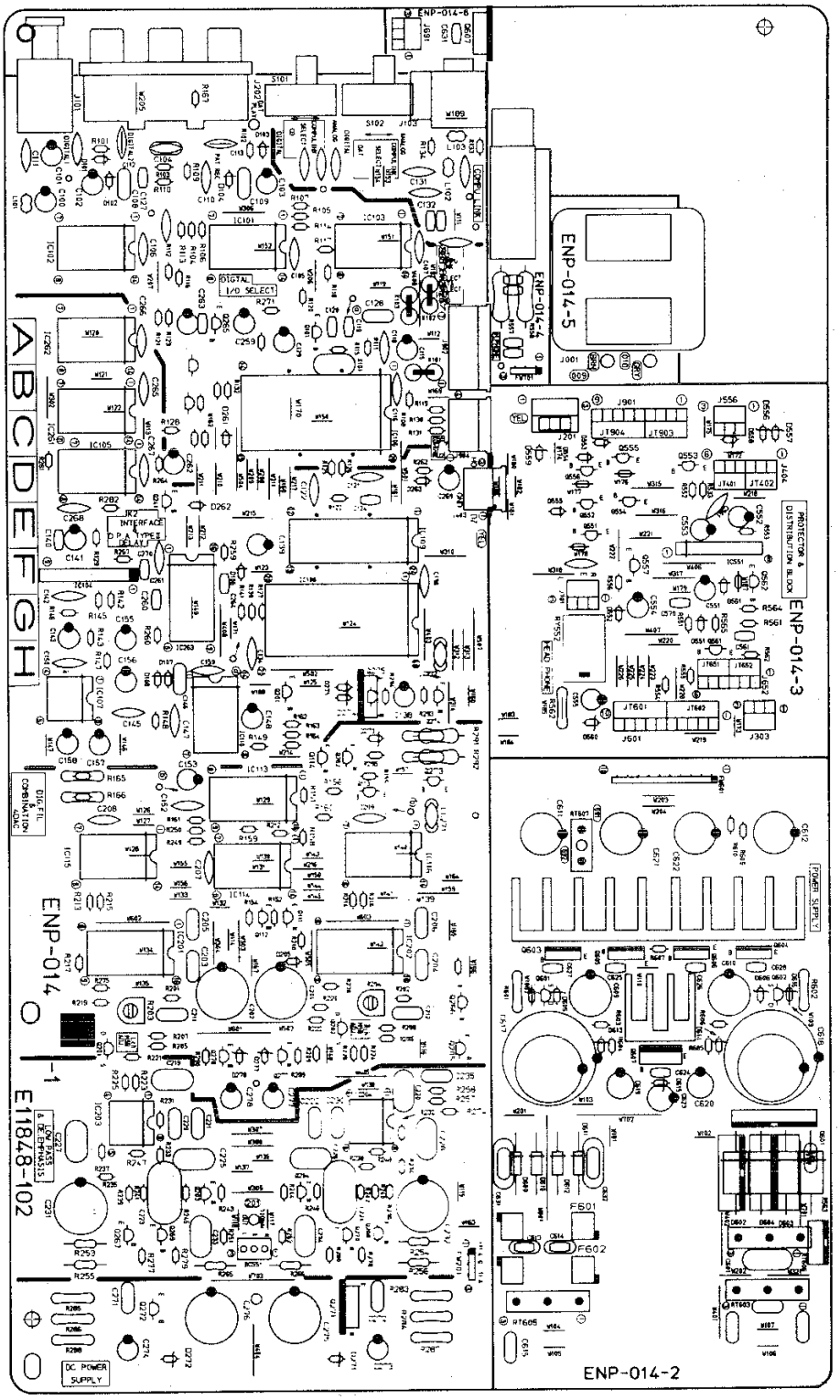
J:----------the U.S.A.
C:----------Canada
A:----------Australia
E,EF:----------Continental Europe
G:----------West Germany
BS:----------the U.K.
U:----------Other Countries

No mark indicates all areas.

Printed Circuit Board Ass'y and Parts List

■ ENP-014 □ Digital & Power PC Board Ass'y

Note: ENP-014 □ varies according to the areas employed. See note (1) when placing an order.



Note (1)

PC Board Ass'y	Designated Areas
ENP-014 [B]	the U.S.A., Canada
ENP-014 [C]	Other Countries
ENP-014 [D]	Australia, Continental Europe, the U.K.
ENP-014 [E]	West Germany

Transistors

⚠	ITEM	PART NUMBER	DESCRIPTION	MAKER	AREA
	Q101	DTC144ES	SILICON	ROHM	
	Q111	2SA1029(C,D)	SILICON	HITACHI	
	Q112	2SC535(C)	SILICON	RITACHI	
	Q113	2SA564A(R,S)	SILICON	MATSUSHITA	
	Q114	DTC114YS	SILICON	ROHM	
	Q201	2SK170(V)	F.E.T	TOSHIBA	
	Q202	2SK170(V)	F.E.T	TOSHIBA	
	Q203	2SC3068	SILICON	SANYO	
	Q204	2SC3068	SILICON	SANYO	
	Q205	DTA114YS	SILICON	ROHM	
	Q241	2SC458(C,D)	SILICON	HITACHI	
	Q262	DTC114YS	SILICON	ROHM	
	Q264	DTC114YS	SILICON	ROHM	
	Q265	2SC1685(R,S)	SILICON	MATSUSHITA	
	Q266	DTA144ES	SILICON	ROHM	
	Q267	2SC3068	SILICON	SANYO	
	Q268	2SC3068	SILICON	SANYO	
	Q269	2SC3068	SILICON	SANYO	
	Q270	2SC3068	SILICON	SANYO	
	Q271	2SB1274(R,S)	SILICON	SANYO	
	Q272	2SC2060(Q,R)	SILICON	ROHM	
	Q273	2SA934(Q,R)	SILICON	ROHM	
	Q275	2SA1015(Y,GR)	SILICON	TOSHIBA	B
	Q275	2SB1274(R,S)	SILICON	SANYO	C
	Q275	2SB1274(R,S)	SILICON	SANYO	D
	Q275	2SB1274(R,S)	SILICON	SANYO	E
	Q277	2SC2060(Q,R)	SILICON	ROHM	
	Q278	2SA1015(Y,GR)	SILICON	TOSHIBA	
	Q551	DTA114YS	SILICON	ROHM	
	Q552	DTC114YS	SILICON	ROHM	
	Q553	DTA114YS	SILICON	ROHM	
	Q554	DTA114YS	SILICON	ROHM	
	Q555	DTC114YS	SILICON	ROHM	
	Q556	DTC114YS	SILICON	ROHM	
	Q557	DTC144ES	SILICON	ROHM	
	Q601	2SK246(Y)	F.E.T	TOSHIBA	
	Q602	2SK246(Y)	F.E.T	TOSHIBA	
	Q603	2SD2061(F,G)	SILICON	ROHM	
	Q604	2SB1187(F,G)	SILICON	ROHM	
	Q605	2SD2061(F,G)	SILICON	ROHM	
	Q606	2SB1187(F,G)	SILICON	ROHM	
	Q607	2SD1944(J,K)	SILICON	ROHM	

I.C.s

⚠	ITEM	PART NUMBER	DESCRIPTION	MAKER	AREA
	IC101	TC74HCU04AP	I.C.	TOSHIBA	
	IC102	TC74HC00AP	I.C.	TOSHIBA	
	IC103	TC74HC00AP	I.C.	TOSHIBA	
	IC104	TC5081AP	I.C.	TOSHIBA	
	IC105	TC74HC86P	I.C.	TOSHIBA	
	IC106	YM3623B	I.C.	YAMAHA	
	IC107	NJM4560DD	I.C.	DAINICHI	
	IC108	VC4111	I.C.	MATSUSHITA	
	IC109	LC3517BSL-15	I.C.	SANYO	
	IC110	SN74LS624N	I.C.	MATSUBOU	
	IC113	YM3414	I.C.	YAMAHA	
	IC114	TC74HC74AP	I.C.	TOSHIBA	
	IC115	TC74HC74AP	I.C.	TOSHIBA	
	IC116	TC74HC74AP	I.C.	TOSHIBA	
	IC201	PCM56P	I.C.	NIHONBARBU	
	IC202	PCM56P	I.C.	NIHONBARBU	
	IC203	NJM5532D	I.C.	DAINICHI	
	IC204	NJM5532D	I.C.	DAINICHI	
	IC261	TC74HC74AP	I.C.	TOSHIBA	
	IC262	TC74HC74AP	I.C.	TOSHIBA	
	IC263	TC74HC123P	I.C.	TOSHIBA	
	IC551	UPC1237HA	I.C.	NEC	

Diodes

⚠	ITEM	PART NUMBER	DESCRIPTION	MAKER	AREA
	D101	1SS133	SILICON	ROHM	
	D102	1SS133	SILICON	ROHM	
	D103	1SS133	SILICON	ROHM	
	D104	1SS133	SILICON	ROHM	
	D106	1SS133	SILICON	ROHM	
	D107	1SS133	SILICON	ROHM	
	D108	1SS133	SILICON	ROHM	
	D205	MA700	ZENER	MATSUSHITA	
	D261	1SS133	SILICON	ROHM	
	D262	1SS133	SILICON	ROHM	
	D263	1SS133	SILICON	ROHM	
	D271	RD9.1JSB3	ZENER	NEC	
	D272	RD9.1JSB3	ZENER	NEC	
	D273	MTZ3.3J8	ZENER	ROHM	
	D275	MTZ4.7J8	ZENER	ROHM	
	D277	RD5.6JSB3	ZENER	NEC	
	D278	RD5.6JSB3	ZENER	NEC	
	D551	1SS133	SILICON	ROHM	
	D552	1SS133	SILICON	ROHM	
	D553	1SS133	SILICON	ROHM	
	D554	1SS133	SILICON	ROHM	
	D555	1SS133	SILICON	ROHM	
	D556	MTZ20JC	ZENER	ROHM	
	D557	MTZ20JC	ZENER	ROHM	
	D558	MTZ7.5JC	ZENER	ROHM	
	D559	MTZ13JC	ZENER	ROHM	
	D560	MTZ13JC	ZENER	ROHM	
	D601	30DF2SFC	SILICON	NIHONINTER	
	D602	30DF2SFC	SILICON	NIHONINTER	
	D603	30DF2SFC	SILICON	NIHONINTER	
	D604	30DF2SFC	SILICON	NIHONINTER	
	D605	RD18JSB3	ZENER		
	D606	RD18JSB3	ZENER		
	D609	20E2FA-5	SI.DIODE	NIHONINTER	
	D610	20E2FA-5	SI.DIODE	NIHONINTER	
	D611	20E2FA-5	SI.DIODE	NIHONINTER	
	D612	20E2FA-5	SI.DIODE	NIHONINTER	
	D613	RD12JSB3	ZENER	NEC	
	D614	RD12JSB3	ZENER	NEC	
	D615	MTZ6.8JC	ZENER	ROHM	
	D616	MTZ10JC	ZENER	ROHM	

⚠ : SAFETY PARTS

Capacitors

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	C100	QETB1HM-106	10MF	50V	ELECTRO	
	C101	QETB1EM-107	100MF	25V	ELECTRO	
	C102	QETB1EM-476	47MF	25V	ELECTRO	
	C103	QETB1EM-476	47MF	25V	ELECTRO	
	C104	QCZ0205-155	1.5MF	25V	CERAMIC	
	C105	QCC21EM-473	0.047MF	25V	CERAMIC	
	C106	QCC21EM-473	0.047MF	25V	CERAMIC	
	C107	QCC21EM-473	0.047MF	25V	CERAMIC	
	C108	QFV81HJ-103	0.01MF	50V	T.FILM	
	C109	QFV81HJ-103	0.01MF	50V	T.FILM	
	C110	QCZ0205-155	1.5MF	25V	CERAMIC	
	C111	QCC21EM-473	0.047MF	25V	CERAMIC	
	C112	QCZ0205-155	1.5MF	25V	CERAMIC	
	C113	QCZ0205-155	1.5MF	25V	CERAMIC	
	C115	QETB1AM-107	100MF	10V	ELECTRO	
	C116	QCC21EM-473	0.047MF	25V	CERAMIC	
	C118	QCS21HJ-471	470PF	50V	CERAMIC	
	C119	QCT30UJ-220	22PF	50V	CERAMIC	
	C120	QCT30UJ-220	22PF	50V	CERAMIC	
	C121	QCS21HJ-221	220PF	50V	CERAMIC	
	C122	QCS21HJ-221	220PF	50V	CERAMIC	
	C124	QCBB1HK-221	220PF	50V	CERAMIC	
	C127	QCT30UJ-220	22PF	50V	CERAMIC	
	C128	QFN81HJ-822	8200PF	50V	MYLAR	
	C129	QETB1HM-225	2.2MF	50V	ELECTRO	
	C132	QCS21HJ-221	220PF	50V	CERAMIC	
	C134	QCC21EM-473	0.047MF	25V	CERAMIC	
	C136	QCC21EM-473	0.047MF	25V	CERAMIC	
	C138	QETB1AM-107	100MF	10V	ELECTRO	
	C139	QETB1CM-226	22MF	16V	ELECTRO	
	C140	QCBB1HK-221	220PF	50V	CERAMIC	
	C141	QETB1AM-107	100MF	10V	ELECTRO	
	C142	QCC21EM-223	0.022MF	25V	CERAMIC	
	C143	QETB1AM-107	100MF	10V	ELECTRO	
	C145	QCS21HJ-331	330PF	50V	CERAMIC	
	C146	QFN81HJ-392	3900PF	50V	MYLAR	
	C147	QCS21HJ-270	27PF	50V	CERAMIC	
	C148	QETB1AM-107	100MF	10V	ELECTRO	
	C152	QCC21EM-473	0.047MF	25V	CERAMIC	
	C153	QETB1AM-107	100MF	10V	ELECTRO	

⚠ : SAFETY PARTS

Capacitors

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	C155	QETB1EM-107	100MF	25V	ELECTRO	
	C156	QETB1EM-107	100MF	25V	ELECTRO	
	C157	QETB1EM-476	47MF	25V	ELECTRO	
	C158	QETB1EM-476	47MF	25V	ELECTRO	
	C159	QCC21EM-473	0.047MF	25V	CERAMIC	
	C201	EEZ2503-107	100MF		ELECTRO	
	C202	EEZ2503-107	100MF		ELECTRO	
	C203	EFZ0101-223S	0.022MF		M.MYLAR	
	C204	EFZ0101-223S	0.022MF		M.MYLAR	
	C205	EFZ0101-223S	0.022MF		M.MYLAR	
	C206	EFZ0101-223S	0.022MF		M.MYLAR	
	C207	QCC21EM-473	0.047MF	25V	CERAMIC	
	C208	QCC21EM-473	0.047MF	25V	CERAMIC	
	C209	QCC21EM-473	0.047MF	25V	CERAMIC	
	C211	QFV81HJ-103	0.01MF	50V	T.FILM	
	C212	QFV81HJ-103	0.01MF	50V	T.FILM	
	C219	EFP001G-271S			P.P.CAPACI	
	C220	EFP001G-271S			P.P.CAPACI	
	C221	EFZ0101-103S	0.01MF		M.MYLAR	
	C222	EFZ0101-103S	0.01MF		M.MYLAR	
	C223	QFP81HG-683	0.068MF	50V	POLY	
	C224	QFP81HG-683	0.068MF	50V	POLY	
	C225	QFP81HG-202	2000PF	50V	POLY	
	C226	QFP81HG-202	2000PF	50V	POLY	
	C227	QFP81HG-113	0.011MF	50V	POLY	
	C228	QFP81HG-113	0.011MF	50V	POLY	
	C229	EFZ0101-103S	0.01MF		M.MYLAR	
	C230	EFZ0101-103S	0.01MF		M.MYLAR	
	C231	EEZ5006-107	100MF		ELECTRO	
	C232	EEZ5006-107	100MF		ELECTRO	
	C233	EFZ0101-822S	8200PF		M.MYLAR	
	C234	EFZ0101-822S	8200PF		M.MYLAR	
	C235	QFN81HJ-103	0.01MF	50V	MYLAR	
	C259	QETB1HM-225	2.2MF	50V	ELECTRO	
	C260	QCBB1HK-121	120PF	50V	CERAMIC	
	C261	QCC21EM-223	0.022MF	25V	CERAMIC	
	C262	QETB1HM-474	0.47MF	50V	ELECTRO	
	C263	QCVB1CM-103	0.01MF	16V	CERAMIC	
	C264	QCBB1HK-331	330PF	50V	CERAMIC	
	C265	QCC21EM-473	0.047MF	25V	CERAMIC	
	C266	QCC21EM-473	0.047MF	25V	CERAMIC	
	C267	QCC21EM-473	0.047MF	25V	CERAMIC	
	C268	QCC21EM-103	0.01MF	25V	CERAMIC	
	C26^	^ETB1HM-105	1MF	50V	ELECTRO	
	C270	QCT30UJ-220	22PF	50V	CERAMIC	
	C271	QFV81HJ-473	0.047MF	50V	T.FILM	
	C272	QFV81HJ-473	0.047MF	50V	T.FILM	
	C273	EEZ2505-476	47MF		ELECTRO	
	C274	EEZ2505-476	47MF		ELECTRO	
	C275	EEZ2503-107	100MF		ELECTRO	
	C276	EEZ2503-107	100MF		ELECTRO	
	C277	EEZ5009-107	100MF		ELECTRO	
	C278	EEZ5009-107	100MF		ELECTRO	
	C551	QETB1HM-475	4.7MF	50V	ELECTRO	
	C552	QETB1CM-226	22MF	16V	ELECTRO	
	C553	QETB1AM-227	220MF	10V	ELECTRO	
	C554	QETB1HM-105	1MF	50V	ELECTRO	
	C555	QETB1HM-105	1MF	50V	ELECTRO	
	C557	QCBB1HK-221	220PF	50V	CERAMIC	E
	C558	QCBB1HK-221	220PF	50V	CERAMIC	E
	C559	QFV81HJ-103	0.01MF	50V	T.FILM	E
	C561	QCC21EM-473	0.047MF	25V	CERAMIC	
	C601	EFZ0096-103	0.01MF		M.MYLAR	B
	C601	EFZ0096-103	0.01MF		M.MYLAR	C
	C601	EFZ0096-103	0.01MF		M.MYLAR	D
	C601	EFZ0096-473	0.047MF		M.MYLAR	E
	C609	EEZ2505-476	47MF		ELECTRO	
	C610	EEZ2505-476	47MF		ELECTRO	
	C611	EEZ2503-107	100MF		ELECTRO	
	C612	EEZ2503-107	100MF		ELECTRO	
	C613	QCHB1EZ-223	0.022MF	25V	CERAMIC	B
	C613	QCHB1EZ-223	0.022MF	25V	CERAMIC	C
	C613	QCHB1EZ-223	0.022MF	25V	CERAMIC	D
	C613	QFV81HJ-104	0.1MF	50V	T.FILM	E
	C614	QCHB1EZ-223	0.022MF	25V	CERAMIC	B
	C614	QCHB1EZ-223	0.022MF	25V	CERAMIC	C
	C614	QCHB1EZ-223	0.022MF	25V	CERAMIC	D
	C614	QFV81HJ-104	0.1MF	50V	T.FILM	E
	C615	QFV81HJ-104	0.1MF	50V	T.FILM	E
	C615	QFV81HJ-223	0.022MF	50V	T.FILM	B
	C615	QFV81HJ-223	0.022MF	50V	T.FILM	C
	C615	QFV81HJ-223	0.022MF	50V	T.FILM	D
	C617	EEZ2505-228	2200MF		ELECTRO	
	C618	EEZ2505-228	2200MF		ELECTRO	
	C619	QETB1CM-107	100MF	16V	ELECTRO	
	C620	QETB1CM-107	100MF	16V	ELECTRO	
	C621	EEZ2505-227	220MF		ELECTRO	
	C622	EEZ2505-227	220MF		ELECTRO	
	C623	QETB1AM-476	47MF	10V	ELECTRO	
	C624	QCGB1HK-102	1000PF	50V	CERAMIC	

Capacitors

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	C625	QCGB1HK-102	1000PF	50V	CERAMIC	
	C626	QCGB1HK-102	1000PF	50V	CERAMIC	
	C627	QCGB1HK-102	1000PF	50V	CERAMIC	
	C628	QCGB1HK-102	1000PF	50V	CERAMIC	
	C631	EFZ0096-223	0.022MF		M.MYLAR	
	C632	EFZ0096-223	0.022MF		M.MYLAR	

⚠ : SAFETY PARTS

Resistors

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	R101	QRD167J-750	75	1/6W	CARBON	
	R102	QRD167J-750	75	1/6W	CARBON	
	R103	QRD167J-100	10	1/6W	CARBON	
	R104	QRD167J-103	10K	1/6W	CARBON	
	R105	QRD167J-103	10K	1/6W	CARBON	
	R106	QRD167J-222	2.2K	1/6W	CARBON	
	R107	QRD167J-222	2.2K	1/6W	CARBON	
	R108	QRD167J-472	4.7K	1/6W	CARBON	
	R109	QRD167J-820	82	1/6W	CARBON	
	R110	QRD167J-301	300	1/6W	CARBON	
	R111	QRD167J-271	270	1/6W	CARBON	
	R112	QRD167J-471	470	1/6W	CARBON	
	R113	QRD167J-183	18K	1/6W	CARBON	
	R114	QRD167J-183	18K	1/6W	CARBON	
	R115	QRD167J-105	1M	1/6W	CARBON	
	R116	QRD167J-103	10K	1/6W	CARBON	
	R117	QRD167J-103	10K	1/6W	CARBON	
	R118	QRD167J-471	470	1/6W	CARBON	
	R119	QRD167J-101	100	1/6W	CARBON	
	R120	QRD167J-103	10K	1/6W	CARBON	
	R121	QRD167J-471	470	1/6W	CARBON	
	R122	QRD167J-101	100	1/6W	CARBON	
	R123	QRD167J-101	100	1/6W	CARBON	
	R125	QRD167J-101	100	1/6W	CARBON	
	R126	QRD167J-101	100	1/6W	CARBON	
	R127	QRD167J-471	470	1/6W	CARBON	
	R128	QRD167J-101	100	1/6W	CARBON	
	R129	QRD167J-101	100	1/6W	CARBON	
	R130	QRD167J-471	470	1/6W	CARBON	
	R131	QRD167J-471	470	1/6W	CARBON	
	R132	QRD167J-472	4.7K	1/6W	CARBON	
	R133	QRD167J-102	1K	1/6W	CARBON	
	R134	QRD167J-221	220	1/6W	CARBON	
	R139	QRD167J-101	100	1/6W	CARBON	
	R141	QRD167J-103	10K	1/6W	CARBON	
	R142	QRD167J-101	100	1/6W	CARBON	
	R143	QRD167J-392	3.9K	1/6W	CARBON	
	R145	QRD167J-103	10K	1/6W	CARBON	
	R146	QRD167J-103	10K	1/6W	CARBON	
	R147	QRD167J-152	1.5K	1/6W	CARBON	
	R148	QRD167J-222	2.2K	1/6W	CARBON	
	R149	QRD167J-101	100	1/6W	CARBON	
	R151	QRD167J-472	4.7K	1/6W	CARBON	
	R152	QRD167J-101	100	1/6W	CARBON	
	R154	QRD167J-102	1K	1/6W	CARBON	
	R155	QRD167J-103	10K	1/6W	CARBON	
	R156	QRD167J-152	1.5K	1/6W	CARBON	
	R158	QRD167J-101	100	1/6W	CARBON	
	R159	QRD167J-101	100	1/6W	CARBON	
	R160	QRD167J-101	100	1/6W	CARBON	
	R161	QRD167J-101	100	1/6W	CARBON	
	R162	QRD167J-221	220	1/6W	CARBON	
	R163	QRD167J-221	220	1/6W	CARBON	
	R164	QRD167J-221	220	1/6W	CARBON	
	R165	QRD167J-471	470	1/6W	CARBON	
	R166	QRD167J-471	470	1/6W	CARBON	
	R167	QRD167J-101	100	1/6W	CARBON	
	R201	QRD167J-224	220K	1/6W	CARBON	
	R202	QRD167J-224	220K	1/6W	CARBON	
	R203	QVZ3518-104	100K	0.1W	VARIABLE	
	R204	QVZ3518-104	100K	0.1W	VARIABLE	
	R205	QRD167J-105	1M	1/6W	CARBON	
	R206	QRD167J-105	1M	1/6W	CARBON	
	R207	QRD167J-474	470K	1/6W	CARBON	
	R208	QRD167J-474	470K	1/6W	CARBON	
	R209	QRD167J-472	4.7K	1/6W	CARBON	
	R212	QRD167J-101	100	1/6W	CARBON	
	R213	QRD167J-114	110K	1/6W	CARBON	
	R214	QRD167J-114	110K	1/6W	CARBON	
	R215	QRD167J-224	220K	1/6W	CARBON	
	R216	QRD167J-224	220K	1/6W	CARBON	
	R217	QRD167J-330	33	1/6W	CARBON	
	R218	QRD167J-330	33	1/6W	CARBON	
	R219	QRD167J-104	100K	1/6W	CARBON	
	R220	QRD167J-104	100K	1/6W	CARBON	

⚠ : SAFETY PARTS

Resistors

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	R221	QRD167J-272	2.7K	1/6W	CARBON	
	R222	QRD167J-272	2.7K	1/6W	CARBON	
	R223	QRD167J-152	1.5K	1/6W	CARBON	
	R224	QRD167J-152	1.5K	1/6W	CARBON	
	R225	QRD167J-471	470	1/6W	CARBON	
	R226	QRD167J-471	470	1/6W	CARBON	
	R231	QRD167J-471	470	1/6W	CARBON	
	R232	QRD167J-471	470	1/6W	CARBON	
	R233	QRD167J-300	30	1/6W	CARBON	
	R234	QRD167J-300	30	1/6W	CARBON	
	R235	QRD167J-621	620	1/6W	CARBON	
	R236	QRD167J-621	620	1/6W	CARBON	
	R237	QRD167J-681	680	1/6W	CARBON	
	R238	QRD167J-681	680	1/6W	CARBON	
	R239	QRD167J-221	220	1/6W	CARBON	
	R240	QRD167J-221	220	1/6W	CARBON	
	R241	QRD167J-150	15	1/6W	CARBON	
	R242	QRD167J-150	15	1/6W	CARBON	
	R243	QRD167J-182	1.8K	1/6W	CARBON	
	R244	QRD167J-182	1.8K	1/6W	CARBON	
	R245	QRD167J-105	1M	1/6W	CARBON	
	R246	QRD167J-105	1M	1/6W	CARBON	
	R247	QRD167J-101	100	1/6W	CARBON	
	R248	QRD167J-101	100	1/6W	CARBON	
	R249	QRD167J-101	100	1/6W	CARBON	
	R250	QRD167J-101	100	1/6W	CARBON	
	R251	QRD167J-224	220K	1/6W	CARBON	
	R252	QRD167J-224	220K	1/6W	CARBON	
	R253	ERD141J-151S	150	1/4W	CARBON	
	R254	ERD141J-151S	150	1/4W	CARBON	
	R255	ERD141J-151S	150	1/4W	CARBON	
	R256	ERD141J-151S	150	1/4W	CARBON	
	R257	QRD167J-104	100K	1/6W	CARBON	
	R258	QRD167J-105	1M	1/6W	CARBON	
	R259	QRD167J-104	100K	1/6W	CARBON	
	R260	QRD167J-182	1.8K	1/6W	CARBON	
	R262	QRD167J-471	470	1/6W	CARBON	
	R264	QRD167J-683	68K	1/6W	CARBON	
	R265	ERD141J-101S	100	1/4W	CARBON	
	R266	ERD141J-101S	100	1/4W	CARBON	
	R267	QRD167J-102	1K	1/6W	CARBON	
	R271	QRD167J-472	4.7K	1/6W	CARBON	
	R274	QRD167J-104	100K	1/6W	CARBON	
	R275	QRD167J-221	220	1/6W	CARBON	
	R276	QRD167J-221	220	1/6W	CARBON	
	R277	QRD167J-103	10K	1/6W	CARBON	
	R278	QRD167J-103	10K	1/6W	CARBON	
	R279	QRD167J-103	10K	1/6W	CARBON	
	R280	QRD167J-103	10K	1/6W	CARBON	
	R281	QRD167J-471	470	1/6W	CARBON	
	R282	QRD167J-471	470	1/6W	CARBON	
⚠	R283	QRD14CJ-270S	27	1/4W	UNF.CARBON	B
⚠	R283	QRZ0077-270	27	1/4W	FUSIBLE	C
⚠	R283	QRZ0077-270	27	1/4W	FUSIBLE	D
⚠	R283	QRZ0077-270	27	1/4W	FUSIBLE	E
⚠	R284	QRD14CJ-270S	27	1/4W	UNF.CARBON	B
⚠	R284	QRZ0077-270	27	1/4W	FUSIBLE	C
⚠	R284	QRZ0077-270	27	1/4W	FUSIBLE	D
⚠	R284	QRZ0077-270	27	1/4W	FUSIBLE	E
⚠	R285	QRD14CJ-330S	33	1/4W	UNF.CARBON	B
⚠	R285	QRZ0077-330	33	1/4W	FUSIBLE	C
⚠	R285	QRZ0077-330	33	1/4W	FUSIBLE	D
⚠	R285	QRZ0077-330	33	1/4W	FUSIBLE	E
⚠	R286	QRD14CJ-330S	33	1/4W	UNF.CARBON	B
⚠	R286	QRZ0077-330	33	1/4W	FUSIBLE	C
⚠	R286	QRZ0077-330	33	1/4W	FUSIBLE	D
⚠	R286	QRZ0077-330	33	1/4W	FUSIBLE	E
⚠	R287	QRD14CJ-331S	330	1/4W	UNF.CARBON	
⚠	R288	QRD14CJ-331S	330	1/4W	UNF.CARBON	
	R289	QRD167J-561	560	1/6W	CARBON	
	R290	QRD167J-561	560	1/6W	CARBON	
⚠	R291	QRD125J-470	47	1/2W	UNF.CARBON	C
⚠	R291	QRD125J-470	47	1/2W	UNF.CARBON	D
⚠	R291	QRD125J-470	47	1/2W	UNF.CARBON	E
⚠	R291	QRD14CJ-470S	47	1/4W	UNF.CARBON	B
⚠	R292	QRD125J-470	47	1/2W	UNF.CARBON	C
⚠	R292	QRD125J-470	47	1/2W	UNF.CARBON	D
⚠	R292	QRD125J-470	47	1/2W	UNF.CARBON	E
⚠	R292	QRD14CJ-470S	47	1/4W	UNF.CARBON	B
	R294	QRD167J-221	220	1/6W	CARBON	
	R295	QRD167J-152	1.5K	1/6W	CARBON	
	R533	QRD167J-473	47K	1/6W	CARBON	
	R551	QRD167J-472	4.7K	1/6W	CARBON	
	R552	QRD167J-242	2.4K	1/6W	CARBON	
	R553	QRD167J-274	270K	1/6W	CARBON	
	R554	QRD167J-104	100K	1/6W	CARBON	
	R555	QRD167J-823	82K	1/6W	CARBON	
	R556	QRD167J-102	1K	1/6W	CARBON	
⚠	R557	QRG022J-331A	330	2W	O.M.FILM	
⚠	R558	QRG022J-331A	330	2W	O.M.FILM	

⚠ : SAFETY PARTS

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
⚠	R562	QRD14CJ-820S	82	1/4W	UNF.CARBON	C
⚠	R562	QRD14CJ-820S	82	1/4W	UNF.CARBON	D
⚠	R562	QRD14CJ-820S	82	1/4W	UNF.CARBON	E
⚠	R601	QRD14CJ-100S	10	1/4W	UNF.CARBON	B
⚠	R601	QRZ0077-100	10	1/4W	FUSIBLE	C
⚠	R601	QRZ0077-100	10	1/4W	FUSIBLE	D
⚠	R601	QRZ0077-100	10	1/4W	FUSIBLE	E
⚠	R602	QRD14CJ-100S	10	1/4W	UNF.CARBON	B
⚠	R602	QRZ0077-100	10	1/4W	FUSIBLE	C
⚠	R602	QRZ0077-100	10	1/4W	FUSIBLE	D
⚠	R602	QRZ0077-100	10	1/4W	FUSIBLE	E
	R603	QRD167J-561	560	1/6W	CARBON	
	R604	QRD167J-561	560	1/6W	CARBON	
	R605	QRD167J-561	560	1/6W	CARBON	
	R606	QRD167J-561	560	1/6W	CARBON	
	R607	QRD167J-222	2.2K	1/6W	CARBON	
	R609	QRD167J-362	3.6K	1/6W	CARBON	
	R610	QRD167J-362	3.6K	1/6W	CARBON	

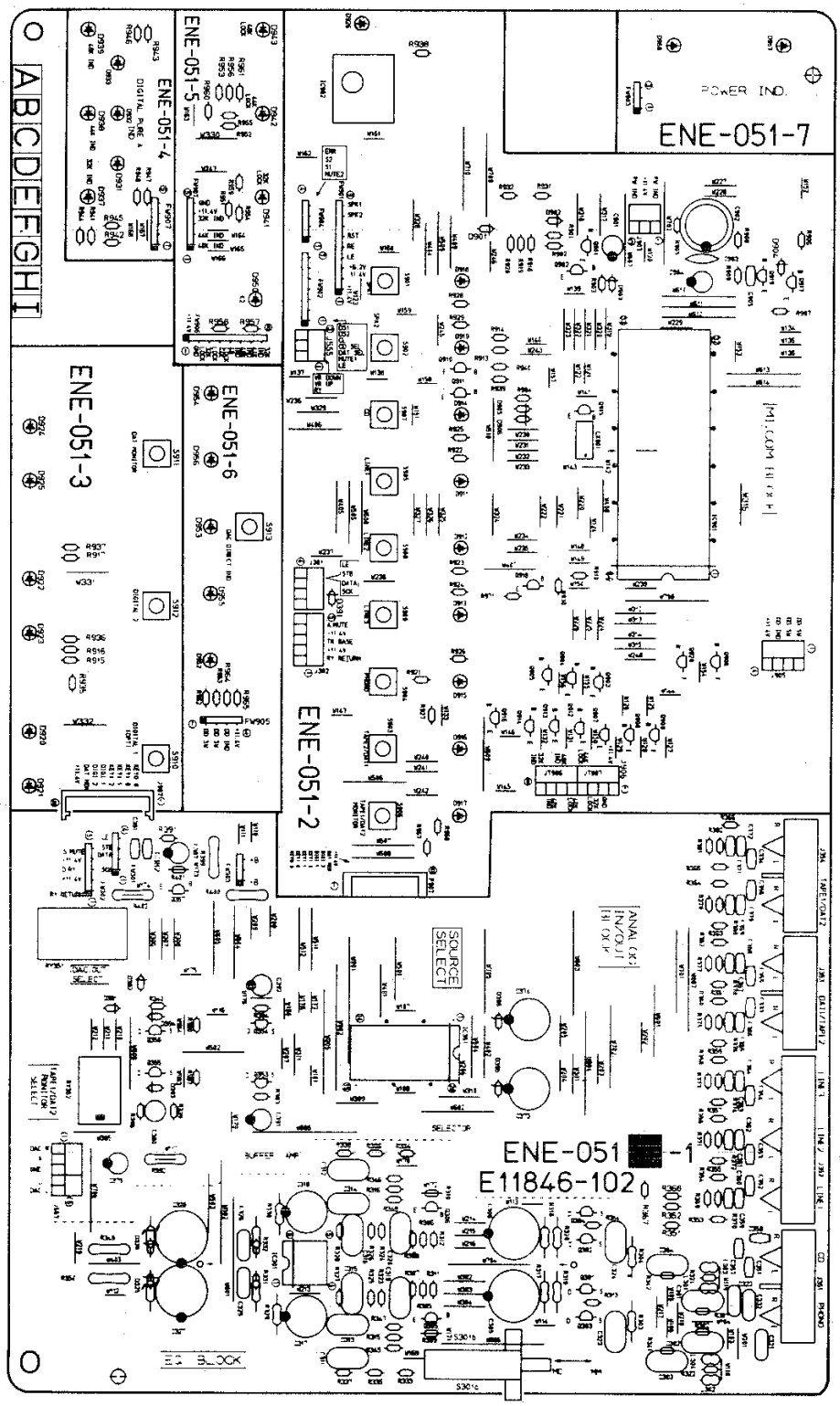
Others

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
		E11848-102	CIRCUIT BOARD	
		E33754-001	TIE BAND	
		E48269-001	SPACER	C
		E48269-001	SPACER	D
		E48269-001	SPACER	E
		E67132-T1R25	FUSE LABEL	C
		E67132-T1R25	FUSE LABEL	D
		E67132-T1R25	FUSE LABEL	E
		E70945-H40	HEAT SINK	
		E73525-001	SCREW	
		E73525-001	SCREW	
		E73525-001	SCREW	
		E75085-001	HEAT SINK	
	F601	EMG7331-002U	FUSE CLIP	
	F601	EMG7331-002	FUSE CLIP	
	F602	EMG7331-002U	FUSE CLIP	
	F602	EMG7331-002	FUSE CLIP	
	J101	TORX172-VA	OPTICAL JACK	
	J102	EMN00YV-307A	3P PIN JACK	
	J103	QMS3501-020	MINI JACK	
	J201	EMV7112-003	CONNECTOR	
	J303	EMV7122-003	CONNECTOR	
	J403	EMV7112-003R	CONNECTOR	
	J551	QMS6A40-021	HEADPHONE JACK	
	J556	EMV7122-003	CONNECTOR	
	J701	EMV7122-003	CONNECTOR	
	J902	EMV7112-007R	CONNECTOR	
	J904	EMV7112-004R	CONNECTOR	
	K101	ENZ8101-007	INDUCTOR	
	K103	ENZ8101-007	INDUCTOR	
	L101	EQL4004-560	INDUCTOR	
	L102	EQL4004-4R7	INDUCTOR	
	L103	EQL4004-1R0	INDUCTOR	
	S101	QSS6A12-E01	SLIDE SWITCH	
	S102	QSS6A12-E01	SLIDE SWITCH	
	X101	ECX0018-000KS	RESONATOR	
	BC551	EWS013-259	SOCKET WIRE	
	FW201	EWR33B-30KST	FLAT WIRE	
	FW601	EWR3AB-13LST	FLAT WIRE	
	FW701	EWR33B-40LST	FLAT WIRE	
	JT401	EMV7122-003	CONNECTOR	
	JT402	EMV7122-003	CONNECTOR	
	JT601	EMV7122-005	CONNECTOR	
	JT602	EMV7122-005	CONNECTOR	
	JT651	EMV7122-003	CONNECTOR	
	JT652	EMV7122-003	CONNECTOR	
	JT903	EMV7122-004	CONNECTOR	
	JT904	EMV7122-005	CONNECTOR	
	LC271	EQF0601-222T	EMI FILTER	
	LC272	EQF0601-222T	EMI FILTER	
	RT603	E67764-103	WRAPPING TERMINAL	
	RT605	E67764-103	WRAPPING TERMINAL	
	RT606	E67764-503	WRAPPING TERMINAL	
	RT607	E67764-102	WRAPPING TERMINAL	
	RY552	ESK5D12-214	RELAY	

⚠ : SAFETY PARTS

■ ENE-051 □ Equalizer & Microcomputer PC Board Ass'y

Note: ENE-051 □ varies according to the areas employed. See note (1) when placing an order.



Note (1)

PC Board Ass'y	Designated Areas
ENE-051 [B]	the U.S.A., Canada
ENE-051 [C]	Australia, Continental Europe, the U.K., Other Countries
ENE-051 [D]	West Germany

Transistors

⚠	ITEM	PART NUMBER	DESCRIPTION	MAKER	AREA
	Q301	2SK170(GR,BL)	F.E.T	MATSUSHITA	
	Q302	2SK170(GR,BL)	F.E.T	MATSUSHITA	
	Q303	2SK170(GR,BL)	F.E.T	MATSUSHITA	
	Q304	2SK170(GR,BL)	F.E.T	MATSUSHITA	
	Q305	2SC2240(GR,BL)	SILICON	TOSHIBA	
	Q306	2SC2240(GR,BL)	SILICON	TOSHIBA	
	Q353	2SK246(GR,BL)	F.E.T	MATSUSHITA	
	Q354	2SK246(GR,BL)	F.E.T	MATSUSHITA	
	Q355	2SK163(L1)	F.E.T	NEC	
	Q356	2SK163(L1)	F.E.T	NEC	
	Q357	DTA114YS	SILICON	ROHM	
	Q901	DTC144ES	SILICON	ROHM	
	Q902	DTC144ES	SILICON	ROHM	
	Q903	DTC114YS	SILICON	ROHM	
	Q904	DTC114YS	SILICON	ROHM	
	Q905	DTC114YS	SILICON	ROHM	
	Q906	DTC114YS	SILICON	ROHM	
	Q907	DTC114YS	SILICON	ROHM	
	Q908	DTC114YS	SILICON	ROHM	
	Q909	DTC114YS	SILICON	ROHM	
	Q910	DTC114YS	SILICON	ROHM	
	Q911	DTC114YS	SILICON	ROHM	
	Q912	DTC114YS	SILICON	ROHM	
	Q913	DTC114YS	SILICON	ROHM	
	Q914	DTC114YS	SILICON	ROHM	
	Q915	DTC114YS	SILICON	ROHM	
	Q916	DTC114YS	SILICON	ROHM	
	Q917	DTA114YS	SILICON	ROHM	
	Q918	DTA114YS	SILICON	ROHM	
	Q919	2SC1685(R,S)	SILICON	MATSUSHITA	
	Q920	DTC114YS	SILICON	ROHM	

⚠ : SAFETY PARTS

I.C.s

⚠	ITEM	PART NUMBER	DESCRIPTION	MAKER	AREA
	IC301	NJM4560DD	I.C.	DAINICHI	
	IC351	TC9164N	I.C.	TOSHIBA	
	IC901	UPD75104CW-150	I.C.	NEC	
	IC902	A1QH3021H0	I.C.	MATSUSHITA	

⚠ : SAFETY PARTS

Diodes

⚠	ITEM	PART NUMBER	DESCRIPTION	MAKER	AREA
	D325	RD16JSB3	ZENER	NEC	
	D326	RD16JSB3	ZENER	NEC	
	D381	1SS133	SILICON	ROHM	
	D382	1SS133	SILICON	ROHM	
	D391	1SS133	SILICON	ROHM	
	D393	1SS133	SILICON	ROHM	
	D394	1SS133	SILICON	ROHM	
	D395	RD16JSB3	ZENER	NEC	
	D396	RD16JSB3	ZENER	NEC	
	D901	1SS133	SILICON	ROHM	
	D902	1SS133	SILICON	ROHM	
	D903	1SS133	SILICON	ROHM	
	D904	1SS133	SILICON	ROHM	
	D905	1SS133	SILICON	ROHM	
	D906	1SS133	SILICON	ROHM	
	D911	SLR-34DC3F	L.E.D.	ROHM	
	D912	SLR-34DC3F	L.E.D.	ROHM	
	D913	SLR-34DC3F	L.E.D.	ROHM	
	D914	SLR-34DC3F	L.E.D.	ROHM	
	D915	SLR-34DC3F	L.E.D.	ROHM	

Diodes

⚠	ITEM	PART NUMBER	DESCRIPTION	MAKER	AREA
	D916	SLR-34DC3F	L.E.D.	ROHM	
	D917	SLR-34VC3F	L.E.D.	ROHM	
	D918	SLR-34YC3F	L.E.D.	ROHM	
	D919	SLR-34YC3F	L.E.D.	ROHM	
	D920	SLV-31YC3F	L.E.D.	ROHM	
	D921	SLV-31YC3F	L.E.D.	ROHM	
	D922	SLV-31YC3F	L.E.D.	ROHM	
	D923	SLV-31YC3F	L.E.D.	ROHM	
	D924	SLV-31YC3F	L.E.D.	ROHM	
	D925	SLV-31YC3F	L.E.D.	ROHM	
	D926	SLR-34VC3F	L.E.D.	ROHM	
	D931	SLV-31YC3F	L.E.D.	ROHM	
	D932	SLV-31YC3F	L.E.D.	ROHM	
	D933	SLV-31YC3F	L.E.D.	ROHM	
	D937	SLV-31YC3F	L.E.D.	ROHM	
	D938	SLV-31YC3F	L.E.D.	ROHM	
	D939	SLV-31YC3F	L.E.D.	ROHM	
	D941	SLV-31YC3F	L.E.D.	ROHM	
	D942	SLV-31YC3F	L.E.D.	ROHM	
	D943	SLV-31YC3F	L.E.D.	ROHM	
	D950	SLV-31YC3F	L.E.D.	ROHM	
	D952	SLV-31YC3F	L.E.D.	ROHM	
	D953	SLV-31YC3F	L.E.D.	ROHM	
	D954	SLV-31YC3F	L.E.D.	ROHM	
	D955	SLV-31YC3F	L.E.D.	ROHM	
	D956	SLV-31YC3F	L.E.D.	ROHM	
	D957	SLV-31YC3F	L.E.D.	ROHM	
	D958	SLV-31YC3F	L.E.D.	ROHM	

⚠ : SAFETY PARTS

Capacitors

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	C301	EFZ0101-221S	220PF		M.MYLAR	D
	C302	EFZ0101-101S	100PF		M.MYLAR	B
	C302	EFZ0101-101S	100PF		M.MYLAR	C
	C302	EFZ0101-221S	220PF		M.MYLAR	D
	C303	EFZ0101-102S	1000PF		M.MYLAR	B
	C303	EFZ0101-102S	1000PF		M.MYLAR	C
	C303	EFZ0101-221S	220PF		M.MYLAR	D
	C304	EFZ0101-102S	1000PF		M.MYLAR	B
	C304	EFZ0101-102S	1000PF		M.MYLAR	C
	C304	EFZ0101-221S	220PF		M.MYLAR	D
	C305	EEZ0602-228	2200MF		ELECTRO	
	C306	EEZ0602-228	2200MF		ELECTRO	
	C311	EFP001G-682S			P.P.CAPACI	
	C312	EFP001G-682S			P.P.CAPACI	
	C313	EFP001G-103S			P.P.CAPACI	
	C314	EFP001G-103S			P.P.CAPACI	
	C315	EFP001G-472S			P.P.CAPACI	
	C316	EFP001G-472S			P.P.CAPACI	
	C317	EEZ5006-226	22MF		ELECTRO	
	C318	EEZ5006-226	22MF		ELECTRO	
	C319	EFZ0101-562S	5600PF		M.MYLAR	
	C320	EFZ0101-562S	5600PF		M.MYLAR	
	C321	EFZ0101-331S	330PF		M.MYLAR	D
	C322	EFZ0101-331S	330PF		M.MYLAR	D
	C323	EFZ0101-680S	68PF		M.MYLAR	
	C324	EFZ0101-680S	68PF		M.MYLAR	
	C325	EFZ0101-222S				D
	C326	EFZ0101-222S				D
	C327	EEZ2505-227	220MF		ELECTRO	
	C328	EEZ2505-227	220MF		ELECTRO	
	C332	QFV81HJ-103	0.01MF	50V	T.FILM	
	C333	QCVB1CM-103	0.01MF	16V	CERAMIC	D
	C334	QCVB1CM-103	0.01MF	16V	CERAMIC	D
	C351	QCVB1CM-103	0.01MF	16V	CERAMIC	D
	C352	QCVB1CM-103	0.01MF	16V	CERAMIC	D
	C353	QCVB1CM-103	0.01MF	16V	CERAMIC	D
	C354	QCVB1CM-103	0.01MF	16V	CERAMIC	D
	C355	QCVB1CM-103	0.01MF	16V	CERAMIC	D
	C356	QCVB1CM-103	0.01MF	16V	CERAMIC	D
	C357	QCBB1HK-221	220PF	50V	CERAMIC	D
	C358	QCBB1HK-221	220PF	50V	CERAMIC	D
	C359	QCBB1HK-221	220PF	50V	CERAMIC	D
	C360	QCBB1HK-221	220PF	50V	CERAMIC	D
	C361	QCBB1HK-221	220PF	50V	CERAMIC	D
	C362	QCBB1HK-221	220PF	50V	CERAMIC	D
	C363	QCBB1HK-221	220PF	50V	CERAMIC	D
	C364	QCBB1HK-221	220PF	50V	CERAMIC	D
	C365	QCBB1HK-221	220PF	50V	CERAMIC	D
	C366	QCBB1HK-221	220PF	50V	CERAMIC	D
	C367	QCBB1HK-221	220PF	50V	CERAMIC	D
	C368	QCBB1HK-221	220PF	50V	CERAMIC	D
	C369	QCBB1HK-221	220PF	50V	CERAMIC	D
	C370	QCBB1HK-221	220PF	50V	CERAMIC	D
	C371	QCBB1HK-221	220PF	50V	CERAMIC	D

⚠ : SAFETY PARTS

Capacitors

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	C372	QCBB1HK-221	220PF	50V	CERAMIC	D
	C373	EEZ5006-226	22MF		ELECTRO	
	C374	EEZ5006-226	22MF		ELECTRO	
	C379	QETB1HM-105	1MF	50V	ELECTRO	
	C380	QEN51HM-225	2.2MF	50V	NON POLE	
	C381	QCBB1HK-561	560PF	50V	CERAMIC	
	C382	QCBB1HK-561	560PF	50V	CERAMIC	
	C387	QETB1HM-105	1MF	50V	ELECTRO	
	C391	QETB1HM-475	4.7MF	50V	ELECTRO	
	C392	QETB1HM-475	4.7MF	50V	ELECTRO	
	C901	QETB1HM-475	4.7MF	50V	ELECTRO	
	C902	QETBOJM-108	1000MF	6.3V	ELECTRO	
	C903	QCF21HP-223	0.022MF	50V	CERAMIC	
	C904	QETB1AM-107	100MF	10V	ELECTRO	
	C905	QCHB1EZ-223	0.022MF	25V	CERAMIC	

⚠ : SAFETY PARTS

Resistors

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	R301	QRD167J-473	47K	1/6W	CARBON	
	R302	QRD167J-473	47K	1/6W	CARBON	
	R303	ERD141J-5R6S	5.6	1/4W	CARBON	
	R304	ERD141J-5R6S	5.6	1/4W	CARBON	
	R305	QRD167J-222	2.2K	1/6W	CARBON	
	R306	QRD167J-222	2.2K	1/6W	CARBON	
	R307	QRD167J-222	2.2K	1/6W	CARBON	
	R308	QRD167J-222	2.2K	1/6W	CARBON	
	R311	QRD167J-470	47	1/6W	CARBON	
	R312	QRD167J-470	47	1/6W	CARBON	
	R313	QRD167J-471	470	1/6W	CARBON	
	R314	QRD167J-471	470	1/6W	CARBON	
	R315	QRD167J-821	820	1/6W	CARBON	
	R316	QRD167J-821	820	1/6W	CARBON	
	R317	ERD141J-220S	22	1/4W	CARBON	
	R318	ERD141J-220S	22	1/4W	CARBON	
	R319	ERD141J-271S	270	1/4W	CARBON	
	R320	ERD141J-271S	270	1/4W	CARBON	
	R321	QRD167J-102	1K	1/6W	CARBON	D
	R322	QRD167J-102	1K	1/6W	CARBON	D
⚠	R323	QRV144F-1002	10K	1/4W	M.FILM	
⚠	R324	QRV144F-1002	10K	1/4W	M.FILM	
⚠	R325	QRV144F-1803	180K	1/4W	M.FILM	
⚠	R326	QRV144F-1803	180K	1/4W	M.FILM	
⚠	R327	QRV144F-1602	16K	1/4W	M.FILM	
⚠	R328	QRV144F-1602	16K	1/4W	M.FILM	
	R329	ERD141J-101S	100	1/4W	CARBON	
	R330	ERD141J-101S	100	1/4W	CARBON	
	R331	QRD167J-104	100K	1/6W	CARBON	
	R332	QRD167J-104	100K	1/6W	CARBON	
	R333	QRD167J-475	4.7M	1/6W	CARBON	
	R334	QRD167J-475	4.7M	1/6W	CARBON	
	R335	QRD167J-475	4.7M	1/6W	CARBON	
	R336	QRD167J-475	4.7M	1/6W	CARBON	
	R337	QRD167J-275	2.7M	1/6W	CARBON	
	R338	QRD167J-275	2.7M	1/6W	CARBON	
	R339	QRD167J-475	4.7M	1/6W	CARBON	
	R340	QRD167J-475	4.7M	1/6W	CARBON	
	R341	QRD167J-471	470	1/6W	CARBON	
	R342	QRD167J-471	470	1/6W	CARBON	
	R345	QRD167J-332	3.3K	1/6W	CARBON	
	R346	QRD167J-332	3.3K	1/6W	CARBON	
	R347	QRD167J-153	15K	1/6W	CARBON	
	R348	QRD167J-153	15K	1/6W	CARBON	
⚠	R349	QRD14CJ-470S	47	1/4W	UNF.CARBON	B
⚠	R349	QRZ0077-470	47	1/4W	FUSIBLE	C
⚠	R349	QRZ0077-470	47	1/4W	FUSIBLE	D
⚠	R350	QRD14CJ-470S	47	1/4W	UNF.CARBON	B
⚠	R350	QRZ0077-470	47	1/4W	FUSIBLE	C
⚠	R350	QRZ0077-470	47	1/4W	FUSIBLE	D
	R351	QRD167J-331	330	1/6W	CARBON	
	R352	QRD167J-331	330	1/6W	CARBON	
	R353	QRD167J-331	330	1/6W	CARBON	
	R354	QRD167J-331	330	1/6W	CARBON	
	R355	QRD167J-331	330	1/6W	CARBON	
	R356	QRD167J-331	330	1/6W	CARBON	
	R357	QRD167J-331	330	1/6W	CARBON	
	R358	QRD167J-331	330	1/6W	CARBON	
	R359	QRD167J-331	330	1/6W	CARBON	
	R360	QRD167J-331	330	1/6W	CARBON	
	R361	QRD167J-331	330	1/6W	CARBON	
	R362	QRD167J-331	330	1/6W	CARBON	
	R363	QRD167J-331	330	1/6W	CARBON	
	R364	QRD167J-331	330	1/6W	CARBON	
	R365	QRD167J-331	330	1/6W	CARBON	
	R366	QRD167J-331	330	1/6W	CARBON	
	R367	QRD167J-474	470K	1/6W	CARBON	

Resistors

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	R368	QRD167J-474	470K	1/6W	CARBON	
	R369	QRD167J-474	470K	1/6W	CARBON	
	R370	QRD167J-474	470K	1/6W	CARBON	
	R371	QRD167J-474	470K	1/6W	CARBON	
	R372	QRD167J-474	470K	1/6W	CARBON	
	R373	QRD167J-474	470K	1/6W	CARBON	
	R374	QRD167J-474	470K	1/6W	CARBON	
	R375	QRD167J-105	1M	1/6W	CARBON	
	R376	QRD167J-105	1M	1/6W	CARBON	
	R377	QRD167J-474	470K	1/6W	CARBON	
	R378	QRD167J-474	470K	1/6W	CARBON	
	R379	QRD167J-105	1M	1/6W	CARBON	
	R380	QRD167J-105	1M	1/6W	CARBON	
	R381	QRD167J-474	470K	1/6W	CARBON	
	R382	QRD167J-474	470K	1/6W	CARBON	
	R383	QRD167J-822	8.2K	1/6W	CARBON	
	R384	QRD167J-822	8.2K	1/6W	CARBON	
	R387	QRD167J-221	220	1/6W	CARBON	
	R388	QRD167J-221	220	1/6W	CARBON	
	R391	QRD167J-563	56K	1/6W	CARBON	
⚠	R392	QRD14CJ-820S	82	1/4W	UNF.CARBON	C
⚠	R392	QRD14CJ-820S	82	1/4W	UNF.CARBON	D
	R396	QRD167J-824	820K	1/6W	CARBON	
⚠	R399	QRD14CJ-102S	1K	1/4W	UNF.CARBON	
⚠	R400	QRD14CJ-182S	1.8K	1/4W	UNF.CARBON	
	R901	QRD167J-103	10K	1/6W	CARBON	
	R902	QRD167J-103	10K	1/6W	CARBON	
	R903	QRD167J-473	47K	1/6W	CARBON	
	R904	QRD167J-103	10K	1/6W	CARBON	
	R905	QRD167J-101	100	1/6W	CARBON	
	R906	QRD167J-391	390	1/6W	CARBON	
	R907	QRD167J-103	10K	1/6W	CARBON	
	R908	QRD167J-473	47K	1/6W	CARBON	
	R909	QRD167J-333	33K	1/6W	CARBON	
	R910	QRD167J-104	100K	1/6W	CARBON	
	R913	QRD167J-223	22K	1/6W	CARBON	
	R914	QRD167J-223	22K	1/6W	CARBON	
	R915	QRD167J-301	300	1/6W	CARBON	
	R916	QRD167J-301	300	1/6W	CARBON	
	R917	QRD167J-301	300	1/6W	CARBON	
	R918	QRD167J-103	10K	1/6W	CARBON	
	R919	QRD167J-103	10K	1/6W	CARBON	
	R920	QRD167J-103	10K	1/6W	CARBON	
	R921	QRD167J-103	10K	1/6W	CARBON	
	R922	QRD167J-271	270	1/6W	CARBON	
	R923	QRD167J-271	270	1/6W	CARBON	
	R924	QRD167J-271	270	1/6W	CARBON	
	R925	QRD167J-271	270	1/6W	CARBON	
	R926	QRD167J-271	270	1/6W	CARBON	
	R927	QRD167J-271	270	1/6W	CARBON	
	R928	QRD167J-271	270	1/6W	CARBON	
	R929	QRD167J-271	270	1/6W	CARBON	
	R930	QRD167J-472	4.7K	1/6W	CARBON	
	R931	QRD167J-151	150	1/6W	CARBON	
	R932	QRD167J-221	220	1/6W	CARBON	
	R935	QRD167J-201	200	1/6W	CARBON	
	R936	QRD167J-201	200	1/6W	CARBON	
	R937	QRD167J-201	200	1/6W	CARBON	
	R938	QRD167J-241	240	1/6W	CARBON	
	R939	QRD167J-473	47K	1/6W	CARBON	
	R940	QRD167J-473	47K	1/6W	CARBON	
	R941	QRD167J-241	240	1/6W	CARBON	
	R942	QRD167J-241	240	1/6W	CARBON	
	R943	QRD167J-241	240	1/6W	CARBON	
	R944	QRD167J-271	270	1/6W	CARBON	
	R945	QRD167J-271	270	1/6W	CARBON	
	R946	QRD167J-271	270	1/6W	CARBON	
	R947	QRD167J-151	150	1/6W	CARBON	
	R948	QRD167J-181	180	1/6W	CARBON	
	R951	QRD167J-201	200	1/6W	CARBON	
	R952	QRD167J-201	200	1/6W	CARBON	
	R953	QRD167J-201	200	1/6W	CARBON	
	R954	QRD167J-271	270	1/6W	CARBON	
	R955	QRD167J-271	270	1/6W	CARBON	
	R956	QRD167J-271	270	1/6W	CARBON	
	R957	QRD167J-201	200	1/6W	CARBON	
	R958	QRD167J-271	270	1/6W	CARBON	
	R959	QRD167J-102	1K	1/6W	CARBON	
	R960	QRD167J-102	1K	1/6W	CARBON	
	R961	QRD167J-102	1K	1/6W	CARBON	
	R962	QRD167J-151	150	1/6W	CARBON	
	R963	QRD167J-151	150	1/6W	CARBON	
	R964	QRD167J-201	200	1/6W	CARBON	
	R965	QRD167J-221	220	1/6W	CARBON	
	R967	QRD167J-471	470	1/6W	CARBON	
	R968	QRD167J-471	470	1/6W	CARBON	
	R971	QRD167J-472	4.7K	1/6W	CARBON	

⚠ : SAFETY PARTS

Others

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
		E11846-102	CIRCUIT BOARD	
		E305688-001	HOLDER	
		E305693-001	HOLDER	
		E48729-008	PLASTIC RIVET	
	J301	EMV7122-004	CONNECTOR	
	J302	EMV7122-005	CONNECTOR	
	J351	EMN00TV-408A	4P PIN JACK	
	J352	EMN00TV-605A	6P PIN JACK	
	J353	EMN00TV-408A	4P PIN JACK	
	J354	EMN00TV-408A	4P PIN JACK	
	J555	EMV7122-003	CONNECTOR	
	J557	EMV7122-005	CONNECTOR	
	J903	EMV7122-003	CONNECTOR	
	J905	EMV7122-004	CONNECTOR	
	J904	EMV7122-004	CONNECTOR	
	J907	EMV5120-008	PLUG ASSY	
	L301	EQL4004-820	INDUCTOR	D
	L302	EQL4004-820	INDUCTOR	D
	L303	EQL4004-820	INDUCTOR	D
	L304	EQL4004-820	INDUCTOR	D
	P907	EMV7120-008	CONNECTOR	
	S301	QST9101-E04	PUSH SWITCH	
	S901	ESP0001-018	TACT SWITCH	
	S902	ESP0001-018	TACT SWITCH	
	S903	ESP0001-018	TACT SWITCH	
	S904	ESP0001-018	TACT SWITCH	
	S905	ESP0001-018	TACT SWITCH	

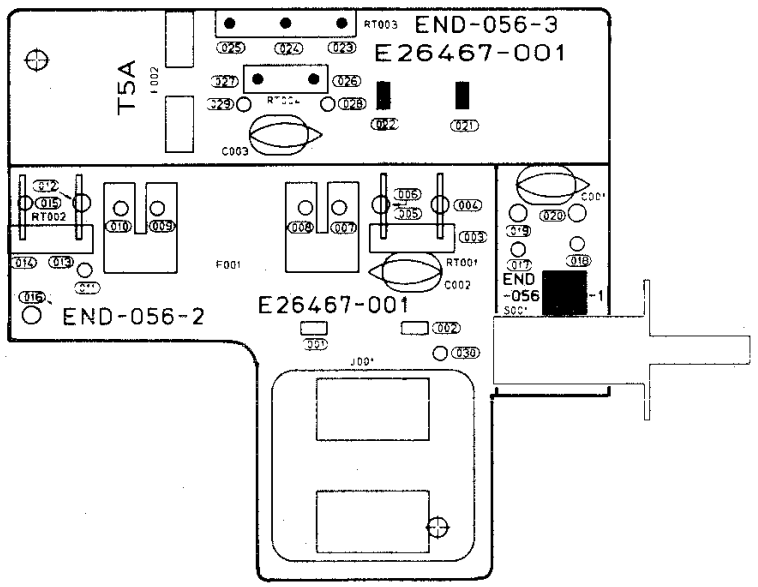
Others

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	S906	ESP0001-018	TACT SWITCH	
	S907	ESP0001-018	TACT SWITCH	
	S908	ESP0001-018	TACT SWITCH	
	S909	ESP0001-018	TACT SWITCH	
	S910	ESP0001-018	TACT SWITCH	
	S911	ESP0001-018	TACT SWITCH	
	S912	ESP0001-018	TACT SWITCH	
	S913	ESP0001-018	TACT SWITCH	
	CX901	ECX0004-194KM	RESONATOR	
	FW301	EWR34B-45LST	FLAT WIRE	
	FW302	EWR35B-45LST	FLAT WIRE	
	FW303	EWR33B-45LST	FLAT WIRE	
	FW901	EWR39B-40LST	FLAT WIRE	
	FW902	EWR37B-45KST	FLAT WIRE	
	FW903	EWR33B-10LST	FLAT WIRE	
	FW904	EWR34B-45KST	FLAT WIRE	
	FW905	EWR34B-10LST	FLAT WIRE	
	FW906	EWR38B-13LST	FLAT WIRE	
	FW907	EWR35B-08SST	FLAT WIRE	
	JT901	EMV7122-003	CONNECTOR	
	JT902	EMV7122-004	CONNECTOR	
	JT906	EMV7122-004	CONNECTOR	
	JT907	EMV7122-004	CONNECTOR	
	RY351	ESK8D24-212	RELAY	
	RY352	ESK5D12-214	RELAY	

⚠ : SAFETY PARTS

■ END-056 □ Power Primary PC Board Ass'y

Note: END-056 □ varies according to the areas employed. See note (1) when placing an order.



Note (1)

PC Board Ass'y	Designated Areas
END-056 A	the U.S.A., Canada
END-056 B	Other Countries
END-056 C	Australia, Continental Europe, West Germany
END-056 D BS	the U.K.

Capacitors

⚠	ITEM	PART NUMBER	DESCRIPTION		AREA
	C001	QCZ9038-103	0.01MF	CERAMIC	
	C001	QCZ9038-103	0.01MF	CERAMIC	A
	C001	QCZ9038-103	0.01MF	CERAMIC	B
	C001	QCZ9038-103	0.01MF	CERAMIC	C
	C001	QCZ9038-103BS	0.01MF	CERAMIC	DBS

⚠ : SAFETY PARTS

Others

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
		EMG7331-001	FUSE CLIP	
		E03675-004	FUSE CLIP	A
		E26467-001	CIRCUIT BOARD	A
		E26467-001	CIRCUIT BOARD	B
		E26467-001	CIRCUIT BOARD	C
		E26467-001BS	CIRCUIT BOARD	DBS
		E306242-001	WIRE CLAMP	A
		E306242-001	WIRE CLAMP	B
		E65508-002	TAB	
⚠	J001	QMC0437-002	AC OUTLET	B

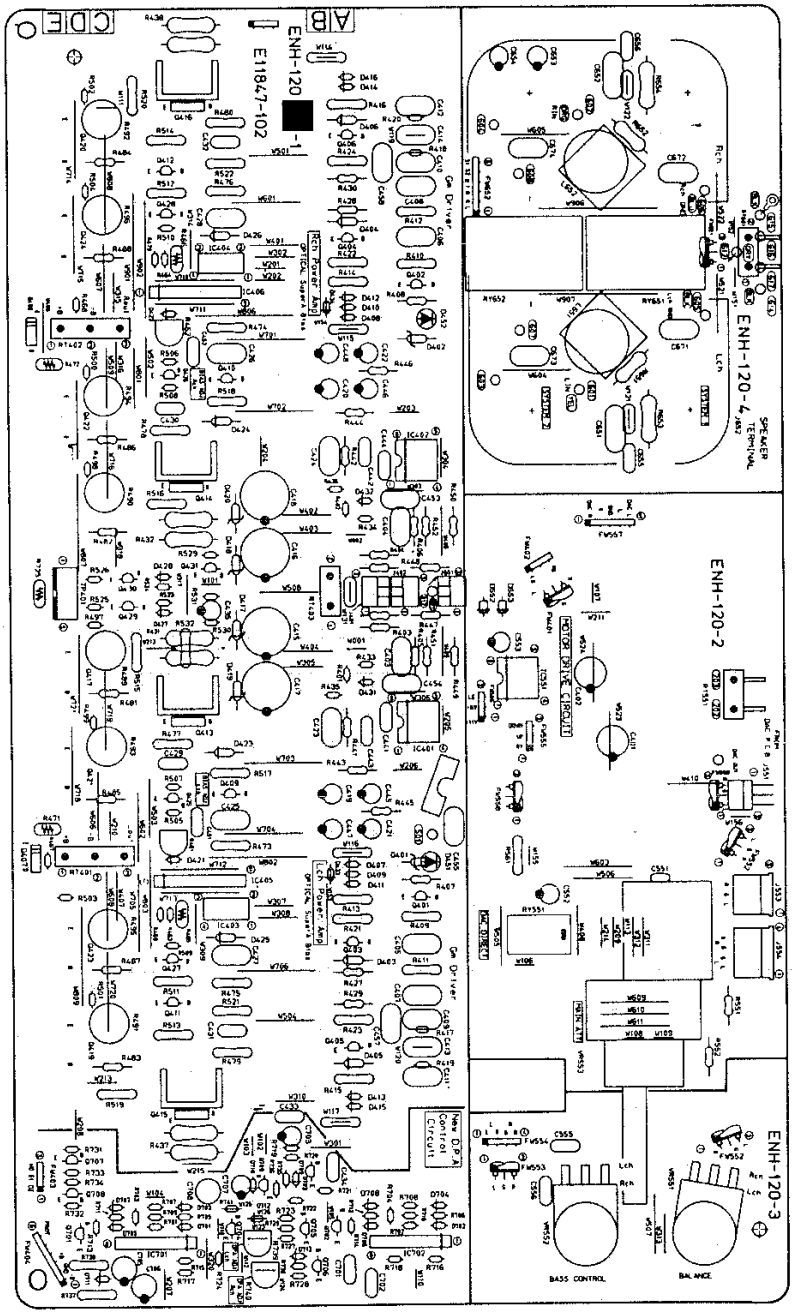
Others

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
⚠	J001	QMC0440-001	AC OUTLET	A
	RT002	E67764-302	WRAPPING TERMINAL	A
	RT002	E67764-302	WRAPPING TERMINAL	B
	RT003	E67764-203	WRAPPING TERMINAL	C
	RT003	E67764-203	WRAPPING TERMINAL	DBS
⚠	S 001	QSP1106-005	POWER SWITCH	
⚠	S 001	QSP1106-005	POWER SWITCH	A
⚠	S 001	QSP1106-005	POWER SWITCH	B
⚠	S 001	QSP1106-005	POWER SWITCH	C
⚠	S 001	QSP1106-005BS	POWER SWITCH	DBS

⚠ : SAFETY PARTS

■ ENH-120 □ Power Amplifier PC Board Ass'y

Note: ENH-120 □ varies according to the areas employed. See note (1) when placing an order.



Note (1)

PC Board Ass'y	Designated Areas
ENH-120 B	the U.S.A., Canada
ENH-120 C	Australia, Continental Europe the U.K., Other Countries
ENH-120 D	West Germany

Transistors

⚠	ITEM	PART NUMBER	DESCRIPTION	MAKER	AREA
	Q401	2SC2910(S,T)	SILICON	SANYO	
	Q402	2SC2910(S,T)	SILICON	SANYO	
	Q403	2SA1208(S,T)	SILICON	SANYO	
	Q404	2SA1208(S,T)	SILICON	SANYO	
	Q405	2SC2910(S,T)	SILICON	SANYO	
	Q406	2SC2910(S,T)	SILICON	SANYO	
	Q407	2SD636(Q,R)	SILICON	MATSUSHITA	
	Q408	2SD636(Q,R)	SILICON	MATSUSHITA	
	Q409	2SC2909(S,T)	SILICON	SANYO	
	Q410	2SC2909(S,T)	SILICON	SANYO	
	Q411	2SA1207(S,T)	SILICON	SANYO	
	Q412	2SA1207(S,T)	SILICON	SANYO	
	Q413	2SD669A(B,C)	SILICON	HITACHI	
	Q414	2SD669A(B,C)	SILICON	HITACHI	
	Q415	2SB649A(B,C)	SILICON	HITACHI	
	Q416	2SB649A(B,C)	SILICON	HITACHI	
	Q417	2SD2155LB(R,O)	SILICON	TOSHIBA	
	Q418	2SD2155LB(R,O)	SILICON	TOSHIBA	
	Q419	2SB1429LB(R,O)	SILICON	TOSHIBA	
	Q420	2SB1429LB(R,O)	SILICON	TOSHIBA	
	Q421	2SD2155LB(R,O)	SILICON	TOSHIBA	
	Q422	2SD2155LB(R,O)	SILICON	TOSHIBA	
	Q423	2SB1429LB(R,O)	SILICON	TOSHIBA	
	Q424	2SB1429LB(R,O)	SILICON	TOSHIBA	
	Q425	2SC2240(GR,BL)	SILICON	TOSHIBA	
	Q426	2SC2240(GR,BL)	SILICON	TOSHIBA	
	Q427	2SA970(GR,BL)	SILICON	TOSHIBA	
	Q428	2SA970(GR,BL)	SILICON	TOSHIBA	
	Q429	2SC2909(S,T)	SILICON	SANYO	
	Q430	2SC2909(S,T)	SILICON	SANYO	
	Q431	2SA970(GR,BL)	SILICON	TOSHIBA	
	Q701	2SD1302(S,T)	SILICON	MATSUSHITA	
	Q702	2SD1302(S,T)	SILICON	MATSUSHITA	
	Q703	2SA1029(C,D)	SILICON	HITACHI	
	Q704	DTC114YS	SILICON	ROHM	
	Q705	2SC458(C,D)	SILICON	HITACHI	
	Q706	2SC458(C,D)	SILICON	HITACHI	
	Q707	2SC458(C,D)	SILICON	HITACHI	
	Q708	2SC458(C,D)	SILICON	HITACHI	
	Q709	DTC144ES	SILICON	ROHM	

⚠ : SAFETY PARTS

I.C.s

⚠	ITEM	PART NUMBER	DESCRIPTION	MAKER	AREA
	IC401	VC4580DV	I.C.	DAINICHI	
	IC402	VC4580DV	I.C.	DAINICHI	
	IC403	PC817A	I.C.	SHARP	
	IC404	PC817A	I.C.	SHARP	
	IC405	VC5022-2	I.C.	SANYO	
	IC406	VC5022-2	I.C.	SANYO	
	IC551	LB1639-CV	I.C.	SANYO	
	IC701	BA15218N	I.C.	ROHM	
	IC702	BA15218N	I.C.	ROHM	

⚠ : SAFETY PARTS

Diodes

⚠	ITEM	PART NUMBER	DESCRIPTION	MAKER	AREA
	D401	RD4.7EB2	ZENER	NEC	B
	D402	RD4.7EB2	ZENER	NEC	B
	D403	1SS81TD	SILICON	HITACHI	
	D404	1SS81TD	SILICON	HITACHI	
	D405	1SS81TD	SILICON	HITACHI	
	D406	1SS81TD	SILICON	HITACHI	
	D407	1SS133	SILICON	ROHM	
	D408	1SS133	SILICON	ROHM	

Diodes

⚠	ITEM	PART NUMBER	DESCRIPTION	MAKER	AREA
	D409	1SS133	SILICON	ROHM	
	D410	1SS133	SILICON	ROHM	
	D411	1SS133	SILICON	ROHM	
	D412	1SS133	SILICON	ROHM	
	D413	1SS133	SILICON	ROHM	
	D414	1SS133	SILICON	ROHM	
	D415	1SS133	SILICON	ROHM	
	D416	1SS133	SILICON	ROHM	
	D417	HZ15-1LTD	ZENER	HITACHI	
	D418	HZ15-1LTD	ZENER	HITACHI	
	D419	HZ15-1LTD	ZENER	HITACHI	
	D420	HZ15-1LTD	ZENER	HITACHI	
	D421	1SS133	SILICON	ROHM	
	D422	1SS133	SILICON	ROHM	
	D427	1SS133	SILICON	ROHM	
	D428	1SS133	SILICON	ROHM	
	D431	1SS133	SILICON	ROHM	
	D432	1SS133	SILICON	ROHM	
	D433	1SS133	SILICON	ROHM	
	D434	1SS133	SILICON	ROHM	
	D451	SLR-34MC50F124	L.E.D.	ROHM	C
	D451	SLR-34MC50F124	L.E.D.	ROHM	D
	D452	SLR-34MC50F124	L.E.D.	ROHM	C
	D452	SLR-34MC50F124	L.E.D.	ROHM	D
⚠	D552	ERA15-02L19	SILICON	KYOUDOU	
⚠	D553	ERA15-02L19	SILICON	KYOUDOU	
	D701	1SS133	SILICON	ROHM	
	D702	1SS133	SILICON	ROHM	
	D703	1SS133	SILICON	ROHM	
	D704	1SS133	SILICON	ROHM	
	D705	1SS133	SILICON	ROHM	
	D706	1SS133	SILICON	ROHM	
	D707	MTZ4.7JB	ZENER	ROHM	
	D708	MTZ4.7JB	ZENER	ROHM	
	D709	1SS133	SILICON	ROHM	
	D710	1SS133	SILICON	ROHM	
	D711	MTZ10JC	ZENER	ROHM	
	D713	MTZ4.3JB	ZENER	ROHM	

Capacitors

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	C403	EFZ0101-101S	100PF		M.MYLAR	
	C404	EFZ0101-101S	100PF		M.MYLAR	
	C405	EFF001J-220			F.M.CAPACI	
	C406	EFF001J-220			F.M.CAPACI	
	C407	EFF001J-220			F.M.CAPACI	
	C408	EFF001J-220			F.M.CAPACI	
	C409	EFZ0101-472S	4700PF		M.MYLAR	
	C410	EFZ0101-472S	4700PF		M.MYLAR	
	C411	EFZ0101-472S	4700PF		M.MYLAR	
	C412	EFZ0101-472S	4700PF		M.MYLAR	
	C415	EEZ5006-107	100MF		ELECTRO	
	C416	EEZ5006-107	100MF		ELECTRO	
	C417	EEZ5006-107	100MF		ELECTRO	
	C418	EEZ5006-107	100MF		ELECTRO	
	C419	QETB1HM-475	4.7MF	50V	ELECTRO	
	C420	QETB1HM-475	4.7MF	50V	ELECTRO	
	C421	QETB1HM-475	4.7MF	50V	ELECTRO	
	C422	QETB1HM-475	4.7MF	50V	ELECTRO	
	C423	EFF001J-560				
	C424	EFF001J-560				
	C425	EFF001J-220			F.M.CAPACI	
	C426	EFF001J-220			F.M.CAPACI	
	C427	EFF001J-220			F.M.CAPACI	
	C428	EFF001J-220			F.M.CAPACI	
	C435	QETB1HM-106	10MF	50V	ELECTRO	
	C441	QFV81HJ-104	0.1MF	50V	T.FILM	B
	C441	QFV81HJ-104	0.1MF	50V	T.FILM	C
	C441	QFV81HJ-223	0.022MF	50V	T.FILM	D
	C442	QFV81HJ-104	0.1MF	50V	T.FILM	B
	C442	QFV81HJ-104	0.1MF	50V	T.FILM	C
	C442	QFV81HJ-223	0.022MF	50V	T.FILM	D
	C443	QFV81HJ-104	0.1MF	50V	T.FILM	B
	C443	QFV81HJ-104	0.1MF	50V	T.FILM	C
	C444	QFV81HJ-104	0.1MF	50V	T.FILM	B
	C444	QFV81HJ-104	0.1MF	50V	T.FILM	C
	C445	QETB1HM-475	4.7MF	50V	ELECTRO	
	C446	QETB1HM-475	4.7MF	50V	ELECTRO	
	C447	QETB1HM-475	4.7MF	50V	ELECTRO	
	C448	QETB1HM-475	4.7MF	50V	ELECTRO	
	C451	QFN81HJ-562	5600PF	50V	MYLAR	
	C452	QFN81HJ-562	5600PF	50V	MYLAR	
	C453	EFZ0101-221S	220PF		M.MYLAR	D
	C454	EFZ0101-221S	220PF		M.MYLAR	D
	C455	EFZ0101-391S	390PF		M.MYLAR	D
	C457	EFZ0101-222S	2200PF		M.MYLAR	

⚠ : SAFETY PARTS

Capacitors

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	C458	EFZ0101-222S	2200PF		M.MYLAR	
	C551	QCHB1EZ-223	0.022MF	25V	CERAMIC	
	C552	QETB1HM-105	1MF	50V	ELECTRO	
	C553	QETB1AM-107	100MF	10V	ELECTRO	
	C555	QFV81HJ-104	0.1MF	50V	T.FILM	
	C556	QFV81HJ-104	0.1MF	50V	T.FILM	
	C653	QETB1HM-105	1MF	50V	ELECTRO	
	C654	QETB1HM-105	1MF	50V	ELECTRO	
	C655	QFV81HJ-104	0.1MF	50V	T.FILM	
	C656	QFV81HJ-104	0.1MF	50V	T.FILM	
	C657	QFV81HJ-104	0.1MF	50V	T.FILM	
	C658	QFV81HJ-104	0.1MF	50V	T.FILM	
	C671	QFV81HJ-103	0.01MF	50V	T.FILM	D
	C672	QFV81HJ-103	0.01MF	50V	T.FILM	D
	C673	QFV81HJ-103	0.01MF	50V	T.FILM	D
	C674	QFV81HJ-103	0.01MF	50V	T.FILM	D
	C701	QFN81HJ-223	0.022MF	50V	MYLAR	
	C702	QFN81HJ-223	0.022MF	50V	MYLAR	
	C703	QETB1EM-106	10MF	25V	ELECTRO	
	C705	QETB1EM-107	100MF	25V	ELECTRO	
	C706	QETB1EM-107	100MF	25V	ELECTRO	
	C707	QETB1EM-106	10MF	25V	ELECTRO	
	C708	QETB1EM-476	47MF	25V	ELECTRO	

Resistors

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	R401	QRD167J-684	680K	1/6W	CARBON	
	R402	QRD167J-684	680K	1/6W	CARBON	
	R403	ERD141J-101S	100	1/4W	CARBON	
	R404	ERD141J-101S	100	1/4W	CARBON	
	R405	ERD141J-105S	1M	1/4W	CARBON	
	R406	ERD141J-105S	1M	1/4W	CARBON	
	R407	ERD141J-222S	2.2K	1/4W	CARBON	
	R408	ERD141J-222S	2.2K	1/4W	CARBON	
⚠	R409	QRD14CJ-820S	82	1/4W	UNF.CARBON	B
⚠	R409	QRZ0077-820	82	1/4W	FUSIBLE	C
⚠	R409	QRZ0077-820	82	1/4W	FUSIBLE	D
⚠	R410	QRD14CJ-820S	82	1/4W	UNF.CARBON	B
⚠	R410	QRZ0077-820	82	1/4W	FUSIBLE	C
⚠	R410	QRZ0077-820	82	1/4W	FUSIBLE	D
⚠	R411	QRD14CJ-101S	100	1/4W	UNF.CARBON	B
⚠	R411	QRZ0077-330	33	1/4W	FUSIBLE	C
⚠	R411	QRZ0077-330	33	1/4W	FUSIBLE	D
⚠	R412	QRD14CJ-101S	100	1/4W	UNF.CARBON	B
⚠	R412	QRZ0077-330	33	1/4W	FUSIBLE	C
⚠	R412	QRZ0077-330	33	1/4W	FUSIBLE	D
⚠	R413	QRD14CJ-470S	47	1/4W	UNF.CARBON	B
⚠	R413	QRZ0077-470	47	1/4W	FUSIBLE	C
⚠	R413	QRZ0077-470	47	1/4W	FUSIBLE	D
⚠	R414	QRD14CJ-470S	47	1/4W	UNF.CARBON	B
⚠	R414	QRZ0077-470	47	1/4W	FUSIBLE	C
⚠	R414	QRZ0077-470	47	1/4W	FUSIBLE	D
⚠	R415	QRD14CJ-820S	82	1/4W	UNF.CARBON	B
⚠	R415	QRZ0077-820	82	1/4W	FUSIBLE	C
⚠	R415	QRZ0077-820	82	1/4W	FUSIBLE	D
⚠	R416	QRD14CJ-820S	82	1/4W	UNF.CARBON	B
⚠	R416	QRZ0077-820	82	1/4W	FUSIBLE	C
⚠	R416	QRZ0077-820	82	1/4W	FUSIBLE	D
	R417	QRD167J-562	5.6K	1/6W	CARBON	
	R418	QRD167J-562	5.6K	1/6W	CARBON	
	R419	QRD167J-562	5.6K	1/6W	CARBON	
	R420	QRD167J-562	5.6K	1/6W	CARBON	
⚠	R421	QRD14CJ-121S	120	1/4W	UNF.CARBON	
⚠	R422	QRD14CJ-121S	120	1/4W	UNF.CARBON	
⚠	R423	QRD14CJ-121S	120	1/4W	UNF.CARBON	
⚠	R424	QRD14CJ-121S	120	1/4W	UNF.CARBON	
⚠	R425	QRD14CJ-8R2S	8.2	1/4W	UNF.CARBON	B
⚠	R426	QRD14CJ-8R2S	8.2	1/4W	UNF.CARBON	B
	R427	ERD141J-223S	22K	1/4W	CARBON	
	R428	ERD141J-223S	22K	1/4W	CARBON	
	R429	ERD141J-223S	22K	1/4W	CARBON	
	R430	ERD141J-223S	22K	1/4W	CARBON	
⚠	R431	QRG022J-272A	2.7K	2W	O.M.FILM	
⚠	R432	QRG022J-272A	2.7K	2W	O.M.FILM	
	R433	QRD167J-475	4.7M	1/6W	CARBON	
	R434	QRD167J-475	4.7M	1/6W	CARBON	
	R435	QRD167J-333	33K	1/6W	CARBON	
	R436	QRD167J-333	33K	1/6W	CARBON	
⚠	R437	QRG022J-272A	2.7K	2W	O.M.FILM	
⚠	R438	QRG022J-272A	2.7K	2W	O.M.FILM	
	R441	ERD141J-222S	2.2K	1/4W	CARBON	
	R442	ERD141J-222S	2.2K	1/4W	CARBON	
	R443	ERD141J-105S	1M	1/4W	CARBON	
	R444	ERD141J-105S	1M	1/4W	CARBON	
	R445	ERD141J-105S	1M	1/4W	CARBON	
	R446	ERD141J-105S	1M	1/4W	CARBON	

Resistors

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	R447	ERD141J-123S	12K	1/4W	CARBON	
	R448	ERD141J-123S	12K	1/4W	CARBON	
	R449	ERD141J-152S	1.5K	1/4W	CARBON	
	R450	ERD141J-152S	1.5K	1/4W	CARBON	
	R451	ERD141J-151S	150	1/4W	CARBON	
	R452	ERD141J-151S	150	1/4W	CARBON	
	R461	QVPE601-202	2K	0.15W	VARIABLE	
	R462	QVPE601-202	2K	0.15W	VARIABLE	
	R463	QRD167J-101	100	1/6W	CARBON	
	R464	QRD167J-101	100	1/6W	CARBON	
	R465	ERT-D2WFL351S	350	1/4W	THERMISTOR	
	R466	ERT-D2WFL351S	350	1/4W	THERMISTOR	
	R467	QRD167J-332	3.3K	1/6W	CARBON	
	R468	QRD167J-332	3.3K	1/6W	CARBON	
	R469	QRD167J-561	560	1/6W	CARBON	
	R470	QRD167J-561	560	1/6W	CARBON	
	R471	SDT250			THERMISTER	C
	R471	SDT250			THERMISTER	D
	R472	SDT250			THERMISTER	C
	R472	SDT250			THERMISTER	D
⚠	R473	QRD14CJ-271S	270	1/4W	UNF.CARBON	B
⚠	R473	QRZ0077-271	270	1/4W	FUSIBLE	C
⚠	R473	QRZ0077-271	270	1/4W	FUSIBLE	D
⚠	R474	QRD14CJ-271S	270	1/4W	UNF.CARBON	B
⚠	R474	QRZ0077-271	270	1/4W	FUSIBLE	C
⚠	R474	QRZ0077-271	270	1/4W	FUSIBLE	D
⚠	R475	QRD14CJ-271S	270	1/4W	UNF.CARBON	B
⚠	R475	QRZ0077-271	270	1/4W	FUSIBLE	C
⚠	R475	QRZ0077-271	270	1/4W	FUSIBLE	D
⚠	R476	QRD14CJ-271S	270	1/4W	UNF.CARBON	B
⚠	R476	QRZ0077-271	270	1/4W	FUSIBLE	C
⚠	R476	QRZ0077-271	270	1/4W	FUSIBLE	D
⚠	R477	QRD14CJ-4R7S	4.7	1/4W	UNF.CARBON	B
⚠	R477	QRZ0077-4R7	4.7	1/4W	FUSIBLE	C
⚠	R477	QRZ0077-4R7	4.7	1/4W	FUSIBLE	D
⚠	R478	QRD14CJ-4R7S	4.7	1/4W	UNF.CARBON	B
⚠	R478	QRZ0077-4R7	4.7	1/4W	FUSIBLE	C
⚠	R478	QRZ0077-4R7	4.7	1/4W	FUSIBLE	D
⚠	R479	QRD14CJ-4R7S	4.7	1/4W	UNF.CARBON	B
⚠	R479	QRZ0077-4R7	4.7	1/4W	FUSIBLE	C
⚠	R479	QRZ0077-4R7	4.7	1/4W	FUSIBLE	D
⚠	R480	QRD14CJ-4R7S	4.7	1/4W	UNF.CARBON	B
⚠	R480	QRZ0077-4R7	4.7	1/4W	FUSIBLE	C
⚠	R480	QRZ0077-4R7	4.7	1/4W	FUSIBLE	D
⚠	R481	QRD125J-2R2	2.2	1/2W	UNF.CARBON	B
⚠	R481	QRX012J-R22A	0.22	1W	M.FILM	C
⚠	R481	QRX012J-R22A	0.22	1W	M.FILM	D
⚠	R482	QRD125J-2R2	2.2	1/2W	UNF.CARBON	B
⚠	R482	QRX012J-R22A	0.22	1W	M.FILM	C
⚠	R482	QRX012J-R22A	0.22	1W	M.FILM	D
⚠	R483	QRD125J-2R2	2.2	1/2W	UNF.CARBON	B
⚠	R483	QRX012J-R22A	0.22	1W	M.FILM	C
⚠	R483	QRX012J-R22A	0.22	1W	M.FILM	D
⚠	R484	QRD125J-2R2	2.2	1/2W	UNF.CARBON	B
⚠	R484	QRX012J-R22A	0.22	1W	M.FILM	C
⚠	R484	QRX012J-R22A	0.22	1W	M.FILM	D
⚠	R485	QRD125J-2R2	2.2	1/2W	UNF.CARBON	B
⚠	R485	QRX012J-R22A	0.22	1W	M.FILM	C
⚠	R485	QRX012J-R22A	0.22	1W	M.FILM	D
⚠	R486	QRD125J-2R2	2.2	1/2W	UNF.CARBON	B
⚠	R486	QRX012J-R22A	0.22	1W	M.FILM	C
⚠	R486	QRX012J-R22A	0.22	1W	M.FILM	D
⚠	R487	QRD125J-2R2	2.2	1/2W	UNF.CARBON	B
⚠	R487	QRX012J-R22A	0.22	1W	M.FILM	C
⚠	R487	QRX012J-R22A	0.22	1W	M.FILM	D
⚠	R488	QRD125J-2R2	2.2	1/2W	UNF.CARBON	B
⚠	R488	QRX012J-R22A	0.22	1W	M.FILM	C
⚠	R488	QRX012J-R22A	0.22	1W	M.FILM	D
⚠	R489	ERZ0001-R22	0.22	3W	EMITTER	
⚠	R490	ERZ0001-R22	0.22	3W	EMITTER	
⚠	R491	ERZ0001-R22	0.22	3W	EMITTER	
⚠	R492	ERZ0001-R22	0.22	3W	EMITTER	
⚠	R493	ERZ0001-R22	0.22	3W	EMITTER	
⚠	R494	ERZ0001-R22	0.22	3W	EMITTER	
⚠	R495	ERZ0001-R22	0.22	3W	EMITTER	
⚠	R496	ERZ0001-R22	0.22	3W	EMITTER	
	R497	QRD167J-100	10	1/6W	CARBON	
	R498	QRD167J-100	10	1/6W	CARBON	
	R499	QRD167J-100	10	1/6W	CARBON	
	R500	QRD167J-100	10	1/6W	CARBON	
	R501	QRD167J-621	620	1/6W	CARBON	
	R502	QRD167J-621	620	1/6W	CARBON	
	R503	QRD167J-621	620	1/6W	CARBON	
	R504	QRD167J-621	620	1/6W	CARBON	
	R505	QRD167J-271	270	1/6W	CARBON	

⚠ : SAFETY PARTS

Resistors

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	R506	QRD167J-271	270	1/6W	CARBON	
	R507	QRD167J-820	82	1/6W	CARBON	
	R508	QRD167J-820	82	1/6W	CARBON	
	R509	QRD167J-820	82	1/6W	CARBON	
	R510	QRD167J-820	82	1/6W	CARBON	
⚠	R511	QRD14CJ-182S	1.8K	1/4W	UNF.CARBON	B
⚠	R511	QRZ0077-182	1.8K	1/4W	FUSIBLE	C
⚠	R511	QRZ0077-182	1.8K	1/4W	FUSIBLE	D
⚠	R512	QRD14CJ-182S	1.8K	1/4W	UNF.CARBON	B
⚠	R512	QRZ0077-182	1.8K	1/4W	FUSIBLE	C
⚠	R512	QRZ0077-182	1.8K	1/4W	FUSIBLE	D
⚠	R513	QRD14CJ-151S	150	1/4W	UNF.CARBON	B
⚠	R513	QRZ0077-151	150	1/4W	FUSIBLE	C
⚠	R513	QRZ0077-151	150	1/4W	FUSIBLE	D
⚠	R514	QRD14CJ-151S	150	1/4W	UNF.CARBON	B
⚠	R514	QRZ0077-151	150	1/4W	FUSIBLE	C
⚠	R514	QRZ0077-151	150	1/4W	FUSIBLE	D
	R515	ERD14CJ-2R2S	2.2	1/4W	R.NETWORK	B
⚠	R515	QRZ0076-2R2	2.2	1/4W	FUSIBLE	C
⚠	R515	QRZ0076-2R2	2.2	1/4W	FUSIBLE	D
	R516	ERD14CJ-2R2S	2.2	1/4W	R.NETWORK	B
⚠	R516	QRZ0076-2R2	2.2	1/4W	FUSIBLE	C
⚠	R516	QRZ0076-2R2	2.2	1/4W	FUSIBLE	D
⚠	R517	QRD14CJ-100S	10	1/4W	UNF.CARBON	B
⚠	R517	QRZ0077-100	10	1/4W	FUSIBLE	C
⚠	R517	QRZ0077-100	10	1/4W	FUSIBLE	D
⚠	R518	QRD14CJ-100S	10	1/4W	UNF.CARBON	B
⚠	R518	QRZ0077-100	10	1/4W	FUSIBLE	C
⚠	R518	QRZ0077-100	10	1/4W	FUSIBLE	D
	R519	ERD14CJ-2R2S	2.2	1/4W	R.NETWORK	B
⚠	R519	QRZ0076-2R2	2.2	1/4W	FUSIBLE	C
⚠	R519	QRZ0076-2R2	2.2	1/4W	FUSIBLE	D
	R520	ERD14CJ-2R2S	2.2	1/4W	R.NETWORK	B
⚠	R520	QRZ0076-2R2	2.2	1/4W	FUSIBLE	C
⚠	R520	QRZ0076-2R2	2.2	1/4W	FUSIBLE	D
⚠	R521	QRD14CJ-100S	10	1/4W	UNF.CARBON	B
⚠	R521	QRZ0077-100	10	1/4W	FUSIBLE	C
⚠	R521	QRZ0077-100	10	1/4W	FUSIBLE	D
⚠	R522	QRD14CJ-100S	10	1/4W	UNF.CARBON	B
⚠	R522	QRZ0077-100	10	1/4W	FUSIBLE	C
⚠	R522	QRZ0077-100	10	1/4W	FUSIBLE	D
	R523	QRD167J-183	18K	1/6W	CARBON	
	R524	QRD167J-183	18K	1/6W	CARBON	
	R525	QRD167J-222	2.2K	1/6W	CARBON	
	R526	QRD167J-222	2.2K	1/6W	CARBON	
	R529	QRD167J-123	12K	1/6W	CARBON	
	R530	QRD167J-103	10K	1/6W	CARBON	
	R531	QRD167J-332	3.3K	1/6W	CARBON	
⚠	R532	QRD14CJ-470S	47	1/4W	UNF.CARBON	
	R551	ERD141J-103S	10K	1/4W	CARBON	
	R552	ERD141J-103S	10K	1/4W	CARBON	
⚠	R561	QRD14CJ-820S	82	1/4W	UNF.CARBON	C
⚠	R561	QRD14CJ-820S	82	1/4W	UNF.CARBON	D
⚠	R651	QRD125J-100	10	1/2W	UNF.CARBON	
⚠	R652	QRD125J-100	10	1/2W	UNF.CARBON	
⚠	R653	QRG022J-100A	10	2W	O.M.FILM	
⚠	R654	QRG022J-100A	10	2W	O.M.FILM	
	R701	QRD167J-224	220K	1/6W	CARBON	
	R702	QRD167J-224	220K	1/6W	CARBON	
	R703	QRD167J-224	220K	1/6W	CARBON	
	R704	QRD167J-224	220K	1/6W	CARBON	
	R705	QRD167J-223	22K	1/6W	CARBON	
	R706	QRD167J-223	22K	1/6W	CARBON	
	R707	QRD167J-223	22K	1/6W	CARBON	
	R708	QRD167J-223	22K	1/6W	CARBON	
	R709	QRD167J-223	22K	1/6W	CARBON	
	R710	QRD167J-223	22K	1/6W	CARBON	
	R711	QRD167J-473	47K	1/6W	CARBON	
	R712	QRD167J-473	47K	1/6W	CARBON	
	R713	QRD167J-222	2.2K	1/6W	CARBON	
	R714	QRD167J-222	2.2K	1/6W	CARBON	
	R715	QRD167J-183	18K	1/6W	CARBON	
	R716	QRD167J-183	18K	1/6W	CARBON	
	R717	QRD167J-682	6.8K	1/6W	CARBON	
	R718	QRD167J-682	6.8K	1/6W	CARBON	
	R719	QRD167J-223	22K	1/6W	CARBON	
	R720	QRD167J-221	220	1/6W	CARBON	
	R721	QRD167J-103	10K	1/6W	CARBON	
	R722	QRD167J-332	3.3K	1/6W	CARBON	
	R723	QRD167J-471	470	1/6W	CARBON	
	R724	QRD167J-303	30K	1/6W	CARBON	
⚠	R725	PTH59F04BF222TS			POSISTOR	
	R727	QRD167J-153	15K	1/6W	CARBON	
	R728	QRD167J-153	15K	1/6W	CARBON	
	R729	QRD167J-822	8.2K	1/6W	CARBON	
	R730	QRD167J-822	8.2K	1/6W	CARBON	
	R731	QRD167J-332	3.3K	1/6W	CARBON	
	R732	QRD167J-562	5.6K	1/6W	CARBON	
	R733	QRD167J-682	6.8K	1/6W	CARBON	
	R734	QRD167J-682	6.8K	1/6W	CARBON	

RESISTORS

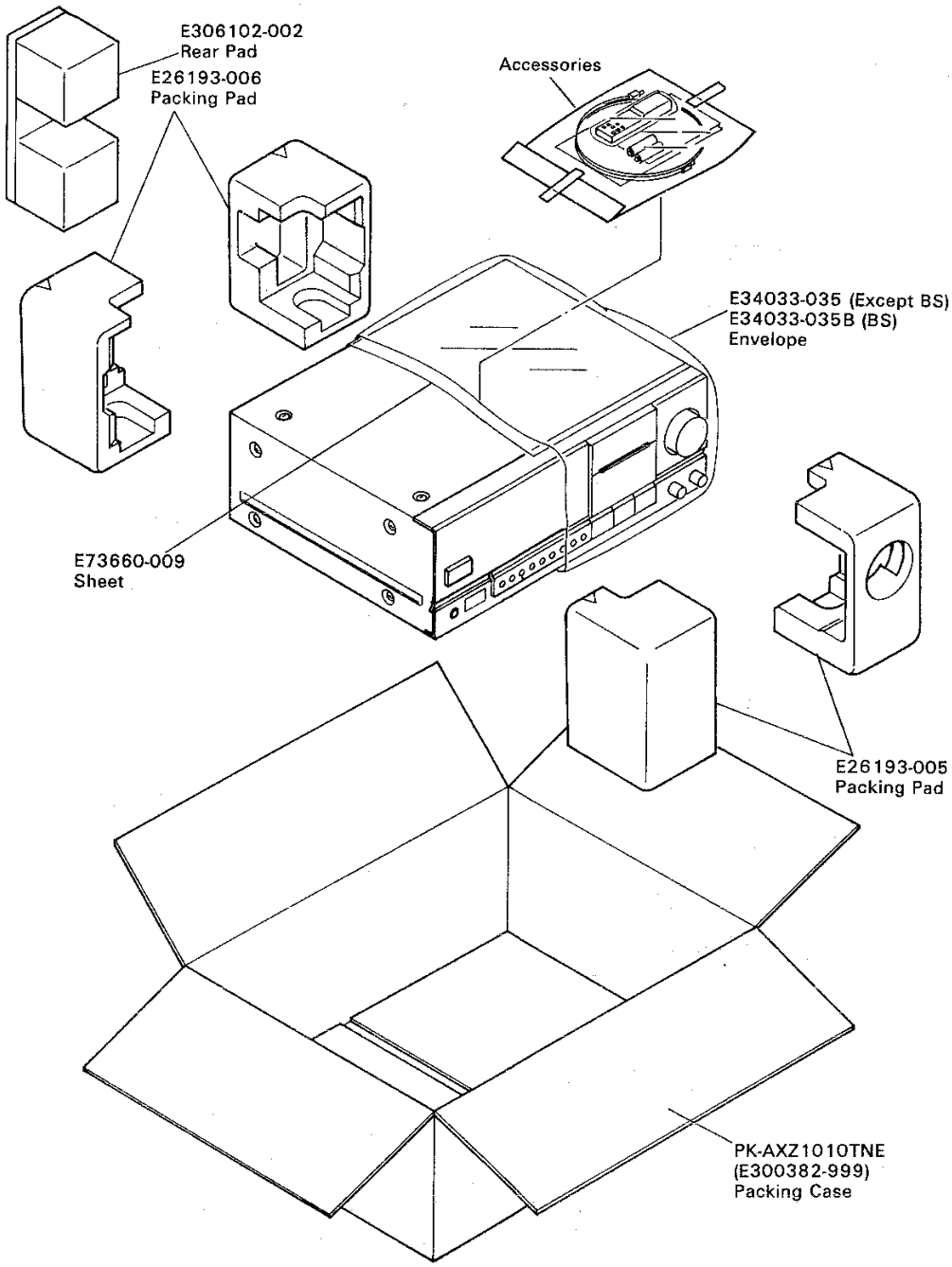
⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	R735	QRD167J-333	33K	1/6W	CARBON	
	R736	QRD167J-332	3.3K	1/6W	CARBON	
⚠	R737	QRD14CJ-471S	470	1/4W	UNF.CARBON	
⚠	R738	QRD14CJ-391S	390	1/4W	UNF.CARBON	
	VR551	QVD887M-EF5B	250K		VARIABLE	
	VR552	QVD887A-E24B	20K		VARIABLE	
	VR553	QVD894Z-E15B	100K		VARIABLE	

Others

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
		BUSH-PUL	BUSHING	
		EWT011-071	TERMINAL WIRE	D
		EWT011-088	TERMINAL WIRE	D
		EWT011-117	TERMINAL WIRE	
		E11847-102	CIRCUIT BOARD	
		E304366-005	HEAT SINK	
		E304952-001	BRACKET	
		E304952-002	BRACKET	
		E305489-001	COVER	B
		E33754-001	TIE BAND	
		E50670-005	WIRE CLAMP	
		E70306-002	HEAT SINK	
		E70859-001	EARTH PLATE	D
		E72018-002	WIRE CLAMP	
		E73525-001	SCREW	
		E73698-001	SPACER	
		E74265-001	BRACKET	
		E74266-002	SPECIAL SCREW	D
		E75019-001	VOLUME BRACKET	
		GBSE3008CC	SCREW	
		SBSB3008CC	SCREW	
		SBSE3008CC	SCREW	
		SBSE3008CC	SCREW	
		SBSE3008CC	SCREW	B
		SBSE3012CC	SCREW	
		SBST2604N	SCREW	
	J401	EMV7122-003	CONNECTOR	
	J402	EMV7122-003	CONNECTOR	
	J551	QMV5004-003K	PLUG ASSY	
	J553	EMV7112-003R	CONNECTOR	
	J554	EMV7112-004R	CONNECTOR	
	J651	EMV7122-003	CONNECTOR	
	J652	EMB00TP-801F	SPEAKER TERMINAL	
	L651	EQL0003-1R0	INDUCTOR	
	L652	EQL0003-1R0	INDUCTOR	
	FW401	EWR23C-16LN	FLAT WIRE	
	FW402	EWR33B-16LST	FLAT WIRE	
	FW403	EWR33B-55KST	FLAT WIRE	
	FW404	EWR36B-40LST	FLAT WIRE	
	FW552	EWR23C-16NN	FLAT WIRE	
	FW553	EWR23C-25JN	FLAT WIRE	
	FW554	EWR34B-25KST	FLAT WIRE	
	FW555	EWR33B-40LST	FLAT WIRE	
	FW556	EWR33B-55LST	FLAT WIRE	
	FW557	EWR35B-08LST	FLAT WIRE	
	FW558	EWR23C-08NN	FLAT WIRE	
	FW651	EWR23C-40LN	FLAT WIRE	
	FW652	EWR36B-13LST	FLAT WIRE	
	RT401	E67764-503	WRAPPING TERMINAL	
	RT402	E67764-503	WRAPPING TERMINAL	
	RT403	E67764-102	WRAPPING TERMINAL	
	RY551	ESK5D12-214	RELAY	
	RY651	ESK5D24-214	RELAY	
	RY652	ESK5D24-214	RELAY	
	TP401	QMV5005-005K	PLUG ASSY	
		EWT011-071	WIRE ASSY	D
		EWT011-088	WIRE ASSY	D

⚠ : SAFETY PARTS

Packing Materials and Part Numbers



The Marks for Designated Areas	
J.....the U.S.A.	G.....West Germany
C.....Canada	BS.....the U.K.
A.....Australia	U.....Other Countries
E,EF.....Continental Europe	**No mark indicates all areas.**

Accessories List

⚠	Part Number	Part Name	Q'ty	Description	Areas
	E30580-1540A	Instruction Book	1		Except BS
	E30580-1540ABS	Instruction Book	1		BS
	BT-20048C	Warranty Card	1		J
	BT-20025K	Warranty Card	1		C
	BT-20117	Warranty Card	1		G
	BT20029C	Warranty Card	1		A
	BT20060	Warranty Card	1		BS
	BT20044F	Safety Instruction Sheet	1		J
	BT20108	Service Information Card	1		J
	BT20071A	Service Center List	1		C
	BT20098	Audio Warranty	1	for New Zealand	A
	BT20066A	ECC Agency	1		BS
	TOCP172-1MB-JV	Optical Fiber	1		
	E72360-001	Caution Sheet	1		C
⚠	QMF51A2-100J1	Fuse	1	F003	U
	E67142-T10R0	Fuse Label	1		U
⚠	E04056	Siemens Plug	1		U
	E35497-015	Caution Sheet	1	220V	U
	QZL1008-001	FTZ Information Sheet	1		G
	E43486-340A	Safety Sheet	1		BS
	RM-SA1010U	Remote Controler	1		
	UM-3(DJ)-2PSA	Battery	1		
	E66416-003	Envelope	1		J
	E6581-4	Envelope	1		U
	E41202-2	Envelope	1	for Instruction Book	Except BS
	E41202-2B	Envelope	1	for Instruction Book	BS

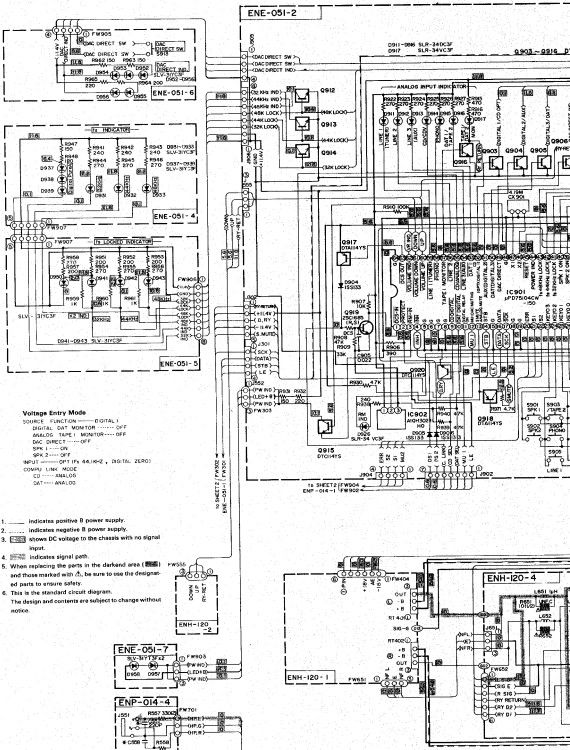
⚠ Safety Parts

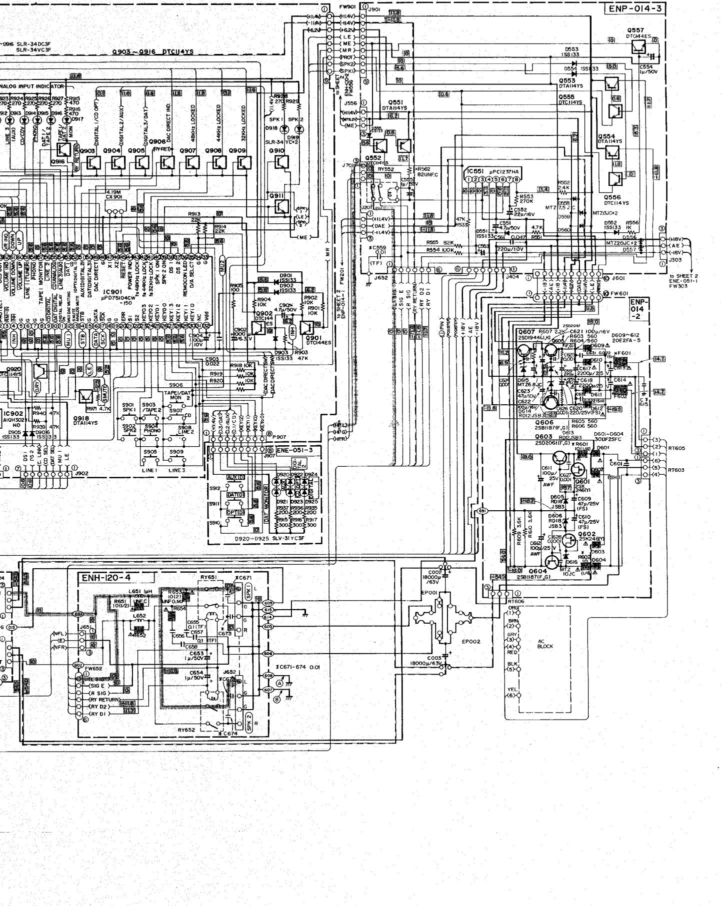
The Marks for Designated Areas

J·····the U.S.A.
C·····Canada
A·····Australia
E,EF·····Continental Europe
G·····West Germany
BS·····the U.K.
U·····Other Countries
No mark indicates all areas.

Schematic Diagrams

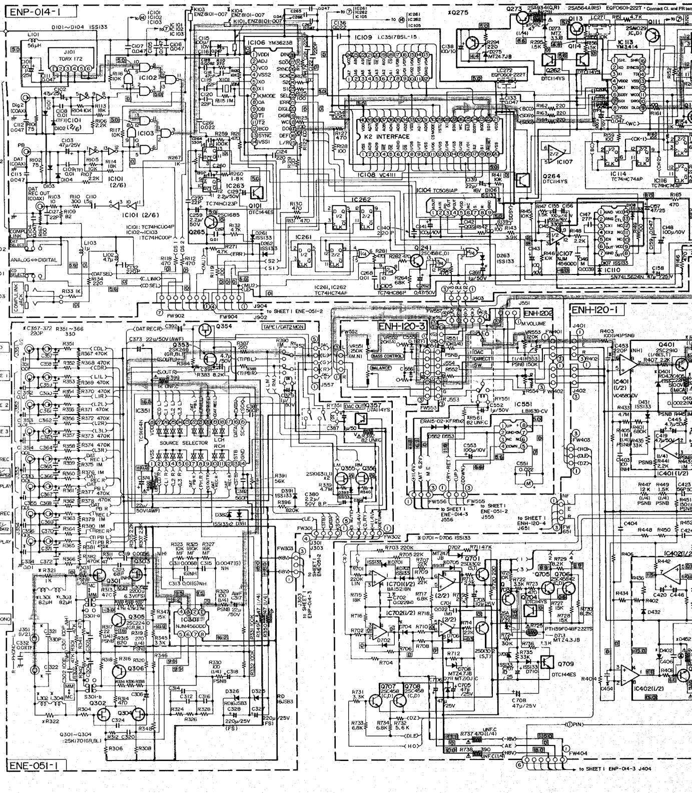
■ Power Supply and System Control Section

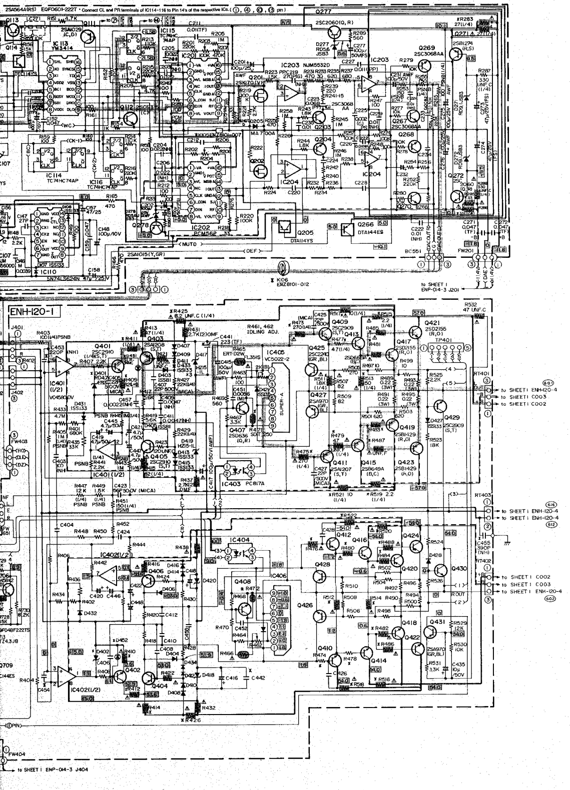



ENP-014-3
ENP-014-2
ENE-051-3
ENH-120-4
Q903~Q916 DTC114YS
D916 SLR-34DC3F
SLR-34VC3F
ANALOG INPUT INDICATOR
FW901
J901
J556
J701
J201
J652
J404
J601
FW601
J303
to SHEET 2 ENE-051-1 FW303
to SHEET 2 ENH-120-2 FW556
to SHEET 2 ENP-014-1 FW201
IC901 μPD75104CW-150
4.19M CX901
IC551 μPC1237HA
IC902 AIQH3021HO
Q551 DTA114YS
Q552 DTC114YS
Q553 DTA114YS
Q554 DTA114YS
Q555 DTC114YS
Q556 DTC114YS
Q557 DTC144ES
Q901 DTC144ES
Q902 DTC144ES
Q918 DTA114YS
Q920 DTC114YS
DIGITAL 1/CD OPT
DIGITAL 2/AUX
DIGITAL 3/DAT
DAC DIRECT IND.
48KHz LOCKED
44KHz LOCKED
32KHz LOCKED
SPK 1
SPK 2
D918
D919
SLR-34 YC×2
RY552
RY651
RY652
S901 SPK1
S902 SPK2
S903 /TAPE 2
S904 PHONO
S905 LINE 1
S906 TAPE1/DAT MON 2
S907 CD
S908 LINE 2
S909 LINE 3
S910 OPT(D)
S911 DAT(D)
S912 AUX(D)
DAT MONITOR
D920~D925 SLV-31YC3F
J902
P907
J907
Q601 2SK246(Y)
Q602 2SK246(Y)
Q603 2SD2061(F,G)
Q604 2SB1187(F,G)
Q605 2SD2061
Q606 2SB1187(F,G)
Q607 2SD1944(J,K)
D601~D604 30DF2SFC
D609~612 20E2FA-5
RT603
RT605
RT606
C002 18000μ/63V
C003 18000μ/63V
EP001
EP002
AC BLOCK
ORG
BRN
GRY
RED
BLK
YEL
FW652
J651
SPK1
SPK2
C671-674 0.01

chematic Diagrams

Source Input and Power Amplifier Section




2SA564A(RS) EQF0601-222T * Connect CL and PR terminals of IC114~116 to Pin 14's of the respective ICs. (①, ④, ⑩, ⑬ pin)
Q277
2SC2060(Q, R)
IC113
YM3414
IC115
TC74HC
74AP
IC201
IC203 NJM5532D
Q201
2SK170(V)
Q269
2SC3068AA
Q271 ⚠ 27(1/4)
2SB1274
(R,S)
IC114
TC74HC74AP
IC116
TC74HC74AP
IC202
PCM562
IC204
Q267
2SC3068AA
Q268
Q270
Q272
2SC2060
(Q,R)
IC110
SN74LS624N
Q278
Q205
DTA114YS
Q266
DTA144ES
MUTO
DEF
2SA1015(Y,GR)
K106
ENZ8101-012
BC551
FW201
to SHEET 1
ENP-014-3 J201
ENH-120-1
J401
J402
R461, 462
IDLING ADJ.
Q401
2SC2910
Q403
2SA1208
(S,T)
IC401
(1/2)
VC4580DV
IC405
VC5022-2
SUPER-A
Q407
2SD636
(Q,R)
IC403 PC817A
Q405
2SC2910
(S,T)
Q409
2SC2909
(S,T)
Q413
Q425
2SC2240
(GR,BL)
Q427
2SA970
(GR,BL)
Q411
2SA1207
(S,T)
Q415
2SB649A
(B,C)
Q417
2SD2155
(R,O)
Q419
2SB1429
(R,O)
Q421
2SD2155
(R,O)
Q423
2SB1429
(R,O)
Q429
2SC2909
(S,T)
TP401
RT401
to SHEET1 ENH-120-4
to SHEET1 C003
to SHEET1 C002
RT403
to SHEET1 ENH-120-4
to SHEET1 ENH-120-4
C455
390P
(NH)
RT402
to SHEET1 C002
to SHEET1 C003
to SHEET1 ENH-120-4
R OUT
IC402(1/2)
IC404
Q406
Q402
Q404
Q408
IC406
Q412
Q416
Q424
Q428
Q426
Q420
Q418
Q422
Q430
Q431
2SA970
(GR,BL)
Q410
Q414
FW403
FW404
to SHEET1 ENP-014-3 J404